

**Meeting of the Central Valley Flood Protection Board
March 27, 2009**

Draft Staff Report

**Sacramento Area Flood Control Agency
Natomas Levee Improvement Program, Phase II Improvements
Permit No. 18159-2, Natomas Cross Canal**

Items

Consider final approval of Permit No. 18159-2 (Attachment A) to place fill to raise and realign the levee; and construct a seepage cutoff wall along the left (south) bank of the Natomas Cross Canal.

Consider final approval of Permit No. 18159-3 (Attachment B) to construct a seepage cutoff wall, construct a seepage berm varying in width, and construct a setback levee higher than existing levee, on the landside slope of the existing left (east) bank levee of the Sacramento River.

Applicant

Sacramento Area Flood Control Agency (SAFCA)

Locations

Natomas Cross Canal: Between Howsley and Sankey Road along the left (south) bank levee of the Natomas Cross Canal in Sutter County (Figures 1 and 2).

Sacramento River: Between the Natomas Cross Canal and Pritchard Lake Road along the left (east) bank levee of the Sacramento River and the Garden Highway in both Sutter and Sacramento Counties (Figure 1 and 2).

Descriptions

Natomas Cross Canal (NCC): Place fill to raise and realign approximately 28,750-linear-feet of levee; and construct approximately 19,050-linear-feet of seepage cutoff wall along the left (south) bank levee.

Sacramento River East Levee (SREL): To construct approximately 11,000-linear-feet of seepage cutoff wall, 20 to 63-feet in depth, construct approximately 8,200-linear-feet of seepage berm varying in width from 100 to 300-feet-wide, construct a 18,800-linear-foot

setback levee, 3-foot-higher than existing levee, on the landside slope of the existing left (east) bank levee.

Prior Central Valley Flood Protection Board Approvals

- The former Reclamation Board approved a request to the U.S. Army Corps of Engineers (Corps) for Section 408 approval to alter the federal flood control project levee along the south bank of the Natomas Cross on December 21, 2007.
- The Central Valley Flood Protection Board (Board) conditionally approved application 18159-2 on January 18, 2008 subject to Corps Section 408 approval.
- The Board approved a request to the Corps for Section 408 approval to alter the federal flood control project levee along the east bank of the Sacramento River on January 18, 2008.
- The Board delivered the Section 408 requests along with the required supporting documentation provided by SAFCA to the Corps in February.
- The Board conditionally approved application 18159-3 on March 21, 2008 subject to Corps Section 408 approval.

Agency Approvals and Endorsements:

- The Corps Sacramento District conditionally approved application 18159-2 on December 11, 2007 subject to Corps Headquarters Section 408 approval (Permit 18159-2 Exhibit 1).
- The Corps District conditionally approved application 18159-3 on February 29, 2008 subject to Corps Headquarters Section 408 approval (Permit 18159-3 Exhibit 1).
- In response to the Board requests to alter the federal flood control project along the Natomas Cross Canal and Sacramento River Corps Headquarters issued *Record of Decision, 408 Permission and Department of the Army 404 Permit to Sacramento Area Flood Control Agency for the Natomas Levee Improvement Project* on January 21, 2009. This approval, pursuant to U.S.C. Title 33, Chapter 9, Subchapter 1, Section 408 included the Natomas Cross Canal South Levee Phase 2 project (included in encroachment permit 18159-2) and the Sacramento River East Levee Phase 1 project (included in encroachment permit 18159-3). This permission was granted based upon Corps determination that such alterations will not be injurious to the public interest and will not impair the usefulness of the Sacramento River Flood Control Project. The Record of Decision is attached to both Permits 18159-2 and 18159-3 as Exhibit 2.

- Corps Sacramento District issued a letter to the Board's Executive Officer on February 20, 2009 (attached to both permits as Exhibit 3) granting final Section 408 permission for the NCC South Levee Phase 2 project included in encroachment permit 18159-2 and the SREL Phase 1 Project (**Reaches 1 – 4A only**) included in encroachment permit 18159-3. This approval approved the specific flood damage reduction features as summarized in the following:
 - NCC South Levee improvements consist of construction of a seepage cut-off wall and raising the levee embankment to a height to provide 200-year level of protection plus 3 feet of additional levee height. The seepage cut-off wall will be constructed of soil/bentonite mix with the traditional open trench method up to 80 feet deep. Vegetation and other encroachments will be removed from the levee landside and waterside slope, and within minimum 15 feet of the levee toe, to conform to the Corps vegetation requirements.
 - Sacramento River East Levee Phase 1 improvements consist of construction of an adjacent levee embankment landside of the existing levee. The adjacent levee will be constructed to provide 200-year level of protection plus 3 feet of additional levee height. A seepage cut-off wall will be constructed at the landside toe of the existing levee. A seepage berm 100 feet wide will be constructed on the landside toe of the levee along the downstream 8,200 feet of the proposed Phase 1 levee. The berm will be widened to 300 feet on the last 500 feet of this Phase. The berms will be constructed in addition to the seepage cut-off wall to mitigate the underseepage issues on this levee reach. The vegetation within the new adjacent levee footprint and at least 15 feet from the new levee and berm toes will be removed by a previously approved construction contract.
 - Also in the February 20, 2009 letter the Corps Sacramento District **did not approve the proposed work on the SREL Reach 4B** included in encroachment permit 18159-3. Final plans for this reach are still under Corps review with final 408 approval anticipated by mid-May 2009. Board staff anticipates preparing a Staff Report for Board consideration on Reach 4B as an Evidentiary Hearing at the May 15, 2009 Board meeting.
- Reclamation District 1000 originally endorsed application 18159-2 on December 13, 2007 and provided an updated endorsement on January 28, 2009 (Permit 18159-2 Exhibit 4).
- Reclamation District 1000 originally endorsed application 18159-3 on February 21, 2008 and provided an updated endorsement on January 29, 2009 (Permit 18159-3 Exhibit 4).

Modifications to the Phase 2 Project Since Certification of the 2007 EIR

Since certification of the 2007 Landside Environmental Impact Report in November 2007 SAFCA continued to finalize the design and refine the features of the proposed Phase 2 Project, resulting in modifications to the project description, as follows:

- **“24/7” Construction of Cutoff Walls.** To complete construction of cutoff walls before flood season while providing sufficient drying and curing time to ensure high-quality cutoff walls, SAFCA would likely conduct cutoff wall construction on a 24-hours-per-day, 7-days-per-week (“24/7”) basis.
- **Replacement of Seepage Berms with Cutoff Walls in Some Locations in Sacramento River East Levee.** In Reaches 2 and 3 of the SREL, seepage berms would be replaced by approximately 6,200 feet of cutoff walls up to 65 feet deep from existing landside toe elevation. In Reach 1, approximately 4,500 feet of cutoff wall up to 20 feet deep and 300 feet of cutoff wall up to 65 feet deep would be constructed. In Reach 4A cutoff walls up to 60 feet deep would be constructed in addition to these seepage berms.
- **Enlargement of Seepage Berms in Reach 4B of the Sacramento River East Levee.** In Reach 4B of the SREL, the seepage berm footprint would be extended farther (500 feet as opposed to 300 feet) from the setback levee for approximately 1,200 feet to accommodate a known cultural resources site. No relief wells would be installed, as was assumed in the 2007 Landside EIR. Any necessary monitoring wells would be located outside of the extended berm footprint. The enlarged berm would provide a protective cap over much of an area known to contain sensitive cultural resources. **Reminder: Reach 4B is not up for Board consideration at this time.**
- **Change in Airport North Bufferlands Baseline – Active Rice to Idle.** The existing conditions at the Airport north bufferlands borrow sites changed from “active rice cultivation,” which existed on June 4, 2007, the time of publication of the notice of preparation (NOP) for the 2007 Landside EIR, to “idle” because the agricultural leases for these lands expired on December 31, 2007. The Sacramento County Airport System has indicated that it will not be bringing these lands back into rice production. The NOP issued for the SEIR (October 2, 2008) acknowledges that these current, existing physical conditions constitute the baseline for this SEIR, whereas the baseline for these lands are no longer in active rice cultivation, but are idle. These lands are no longer considered giant garter snake habitat, and SAFCA has revised its reclamation plan to convert all of the sites used for borrow sites to managed grassland.
- **Design Details for Garden Highway Drainage Outfalls.** The surface drainage outlets across the Garden Highway were discussed in the 2007 Landside EIR. However SAFCA has since developed additional design and construction details. Between the Sacramento River adjacent setback levee and the Garden Highway

pavement in Reaches 1 through 4B new storm drainage collection facilities would be constructed to convey surface water beneath the Garden Highway and toward the Sacramento River. A surface collection system (grassed drainage swale) would convey runoff water to drop inlets, and new pipe laterals would convey the water beneath the Garden Highway to new outfalls in the berm along the east bank of the Sacramento River. In most locations the outfalls would be placed above the ordinary high water mark (2-year) water surface elevation. The location of the cross culverts would be selected to minimize impacts on existing residential properties and vegetation. These discharge pipes would require minor landscape improvements to control erosion and ensure that applicable water quality standards are met. Excavation of a trench across the Garden Highway would be required, and those segments where excavation occurs would have to be reconstructed. Single-lane traffic controls and through-traffic detours would be required during this phase of construction. This work would be conducted in two headings (work sites) simultaneously.

- **Additional Preservation of High-Quality Foraging Habitat.** To mitigate the permanent loss of (high quality) foraging habitat within the foraging range of potentially impacted Swainson's hawk nest locations, SAFCA would create or preserve in perpetuity approximately 90 acres of high-quality foraging habitat. This would be primarily achieved by the acquisition and reclamation of land used for borrow material, including a combination of the South Sutter (Thornton), Bianchi and Novak borrow sites, and approximately 14 acres of land acquired in Reach 2 of the SREL.

Natomas Cross Canal Design Changes from 60% to 100% Design Level

Board conditional approval of permit 18159-2 in January 2008 was based on 60% plans and specifications. SAFCA's consultant Wood Rogers submitted the following major changes between the 60 and 100% levels:

1. At the sixty percent level (prepared in November of 2007), it was assumed Corps 408 approval would be in place for the full NCC Phase 2 scope in Spring 2008. Therefore, the 60% submittal included work that eventually was broken out into NCC Phase 1B (cutoff wall construction from Station 48+00 to 97+00). This cutoff work is no longer in the Phase 2 100% bid set. The levee raising portion, however, remains.
2. Where raising the levee waterward from Station 213+00 to 254+00 the wall followed the existing levee centerline at 60%. At 100% it was moved to the new (waterward) levee centerline. This was to conform the area to the typical approach for cutoff wall positioning, which is to place the cutoff wall as close to the waterside of the levee as practical.
3. The typical details and specifications for levee embankment construction were changed from a zoned embankment to a homogeneous embankment with material

properties matching those specified in the Sacramento River East Levee Phase 1 specifications.

4. Following the 60% submittal the top of levee profile was adjusted to conform to the 200-year design water surface elevation as provided in MBK's June 17, 2008 Supplemental Hydraulics Report.
5. In the 60% submittal Reclamation District 1001's Striplin Road borrow site was the designated borrow source. At 100% the Brookfield borrow site is identified as the designated borrow source.
6. At 60% it was intended to construct the cutoff wall through the Natomas Mutual Water Company's Northern Main pumping plant (levee raising was to be omitted). At 100% both cutoff wall construction and levee raising are omitted.
7. Between 60% and 100% modifications to the typical cutoff wall cap detail were made to better accommodate cutoff wall consolidation after placement, should it occur.
8. At 60% a waterside bench was included at approximately elevation 31, and the waterside slope was trimmed above this elevation at an actual 3:1 slope to the new levee top of slope. At 100% the entire levee is set back such that a theoretical 3:1 slope is present from the existing waterside toe to the water side top of slope, and the actual slope is trimmed to 3:1 or flatter to a point which coincides with the 1/2 levee degrade elevation.
9. Following the 60% submittal existing stability berm drain outlets were required to be abandoned in place.
10. Minor adjustments to the levee and cutoff wall alignments have occurred to both economize material and reduce alignment changes.
11. Demolition at the Shelley and Henningsen properties was added after the 60% submittal.
12. 24-hour construction was assumed to be necessary for construction of the project at both design levels.

Sacramento River East Levee Reaches 1 – 4A Design Changes from 60% to 100%

Board conditional approval of permit 18159-3 in March 2008 was based on 60% plans and specifications. SAFCA's consultant HDR submitted a table showing the major changes between the 60 and 100% levels (Attachment C).

CEQA Compliance:

Board staff has prepared CEQA findings which are proposed for adoption by the Board in Resolution No. 2009-07. The SAFCA CEQA findings and Statement of Overriding Consideration (SAFCA Resolution 09-022, January 29, 2009) are attached to this Staff Report as Attachment D.

Section 8610.5 Compliance

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board has considered all the evidence presented in this matter, including the original and updated applications, past and present Staff Reports and attachments, the original Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project (Draft and Final Versions), the Supplement to the NLIP EIR (SEIR, Draft and Final versions), SAFCA Resolution 09-022 including findings and Statement of Overriding Considerations, the revised Mitigation Monitoring and Reporting Program, the Corps of Engineers' Investigation Results on the Natomas Levees, transcripts of evidentiary hearings on permit applications 18159-2 and 18159-3 held at the Central Valley Flood Protection Board meetings on December 21, 2007, January 18, 2008, March 21, 2008 and March 27, 2009. The Board has also considered evidence from the U.S. Army Corps of Engineers presentation at the January 2008 meeting, and all letters and other correspondence received by the Board and in the Board's files related to this matter.

The custodian of the file is Executive Officer Jay Punia at the Central Valley Flood Protection Board.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

In making its findings, the Board has used the best available science relating to the issues presented by all parties. On the important issue of hydraulic impacts and the computed water surface profiles, SAFCA used the UNET one-dimensional unsteady flow model developed by the USACE for the Sacramento-San Joaquin Comprehensive Study. The model is considered by many experts as one of the best available scientific tools for the purpose of modeling river hydraulics, including flood control system simulations and water surface profile computations.

3. Effects of the decision on the entire State Plan of Flood Control:

This project has positive effects on the State Plan of Flood Control as it includes features that will provide 200-year protection to the Natomas Basin. The Board found (through prior Resolutions 2008-2 and 2008-4) that the hydraulic impacts of the proposed Natomas Cross Canal and Sacramento River East Levee Improvements, as computed using the UNET model, on the entire State Plan of Flood Control, are not significant. Those findings included landside levee raises, adjacent setback levees, seepage berms, and drainage collection systems. The Board now also finds that no changes in project design from the 60 percent to 100 percent levels result in negative hydraulic impacts on the entire State Plan of Flood Control.

On January 21, 2009 the U.S. Army Corps of Engineers issued "Record of Decision, 408 Permission and Department of the Army 404 Permit to Sacramento Area Flood Control Agency for the Natomas Levee Improvement Project". This approval, pursuant to U.S.C. Title 33, Chapter 9, Subchapter 1, Section 408 included the Natomas Cross Canal South Levee Phase 2 project (included in encroachment permit 18159-2) and the Sacramento River East Levee Phase 1 project (included in encroachment permit 18159-3). This permission was granted based upon Corps determination that such alterations will not be injurious to the public interest and will not impair the usefulness of the Sacramento River Flood Control Project.

In California Statutes of 2007, Chapter 641 (SB276), the Legislature found and declared that "The projects authorized in Section 12670.14 of the Water Code [which includes the Natomas Cross Canal South Levee Phase II Improvements and the Sacramento River East Levee Phase I Improvement Project, Reaches 1 Through 4A work] will increase the ability of the existing flood control system in the lower Sacramento Valley to protect heavily urbanized areas within the City of Sacramento and the Counties of Sacramento and Sutter against very rare floods without altering the design flows and water surface elevations prescribed as part of the Sacramento River Flood Control Project or impairing the capacity of other segments of the Sacramento River Flood Control Project to contain these design flows and to maintain water surface elevations. Accordingly, the projects authorized in that section will not result in significant adverse hydraulic impacts to the lands protected by the Sacramento River Flood Control Project and neither the Central Valley Flood Control Board nor any other state agency shall require the authorized projects to include hydraulic mitigation for these protected lands."

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

The impact of climate change on future hydrology and floodplain conditions is discussed in the original Draft EIR at pages 3.11-12 to 3.11-13. An increase in precipitation due to climate change "could lead to increased potential for floods because water that would normally be held in the Sierra Nevada until spring could

flow into the Central Valley concurrently with winter storm events” thus placing more pressure on California’s levee/flood control system. The impact of greenhouse gases is acknowledged and discussed in the DEIR in Section 4.2.5.6 at page 4-18. Proposed development projects in the Natomas Basin are discussed beginning on page 4-11 of the DEIR. In addition, the DEIR discusses the Master Plan for the Sacramento International Airport., beginning on page 4-9 of the DEIR. Thus, improved levees will not only benefit existing residents, they will permit additional planned development, and airport expansion.

Staff Recommendation

Staff recommends that the Board adopt Board Resolution 2009-07 which includes CEQA findings for the Supplement to the Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project – Phase 2 Project, approve permits 18159-2 and 18159-3, and direct staff to file a Notice of Determination with the State Clearinghouse.

List of Attachments

- A. Draft Permit 18159-2
 - Exhibit 1 – Conditional Corps Approval, December 11, 2007
 - Exhibit 2 – Corps Headquarters 408 Record of Decision, January 21, 2009
 - Exhibit 3 – Corps Sacramento District Final 408 Permission, February 20, 2009
 - Exhibit 4 – RD 1000 endorsement, January 28, 2009
- B. Draft Permit 18159-3
 - Exhibit 1 – Conditional Corps Approval, February 29, 2008
 - Exhibit 2 – Corps Headquarters 408 Record of Decision, January 21, 2009
 - Exhibit 3 – Corps Sacramento District Final 408 Permission, February 20, 2009
 - Exhibit 4 – RD 1000 endorsement, January 29, 2009
- C. Summary Table of SREL 60% to 100% Changes
- D. SAFCA Resolution 09-022 including Exhibit A

List of Figures

- 1. Location Map
- 2. Natomas Basin Aerial Photo

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18159-2 BD

This Permit is issued to:

Sacramento Area Flood Control Agency
1007 7th Street, 7th Floor
Sacramento, California 95814

To place fill to raise and realign approximately 28,750-linear-feet of levee; and construct approximately 19,050-linear-feet of seepage cutoff wall along the left (south) bank of the Natomas Cross Canal. The project is located in Sacramento, between Howsley and Sankey Road (Section 4,8,18&24, T11N, R3&4E, MDB&M, Reclamation District 1000, Natomas Cross Canal, Sutter County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and the Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of the Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 day's notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by the Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of the Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18159-2 BD

THIRTEEN: All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

FOURTEEN: The mitigation measures approved by the permittee and found in its Mitigation and Monitoring Reporting Plan (MMRP) are made a condition of this permit. The permittee shall implement all such mitigation measures. However, the measures in the MMRP may be modified to accommodate changed circumstances or new information not triggering the need for subsequent or supplemental analysis under CEQA Guidelines sections 15062 or 15063 with advance notice of the proposed changes and submittal of supporting documentation for review and comment to the Staff Environmental Scientist of the Central Valley Flood Protection Board.

FIFTEEN: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated December 11, 2007, which is attached to this permit as Exhibit 1 and is incorporated by reference.

SIXTEEN: The permittee shall comply with all conditions set forth in the Record of Decision 408 Permission & Department of the Army 404 Permit to Sacramento Area Flood Control Agency for the Natomas Levee Improvement Program dated January 21, 2009, which is attached to this permit as Exhibit 2 and is incorporated by reference.

SEVENTEEN: The permittee shall comply with all conditions set forth in the Natomas Levee Improvement Program Phase 2 Letter of Permission from the Department of the Army dated February 20, 2009, which is attached to this permit as Exhibit 3 and is incorporated by reference.

EIGHTEEN: The permittee shall comply with all conditions set forth in the conditions page from Reclamation District No. 1000 dated January 28, 2009, which is attached to this permit as Exhibit 4 and is incorporated by reference.

NINETEEN: Within three years from completion of the construction of the work authorized under this permit, the permittee shall provide the Sacramento and San Joaquin Drainage District, acting by and through the Central Valley Flood Protection Board of the State of California, a permanent easement granting all flood control rights upon, over and across the property to be occupied by the existing or to-be-reconstructed levee, including the area of the cutoff wall and levee raise and realignment fill areas. The easement must include the area within the floodway, the levee section, and the area fifty (50) feet in width adjacent to the existing and new landward levee toes if the area is not presently encumbered by a Central Valley Flood Protection Board easement. For information regarding existing Central Valley Flood Protection Board easements and required easements, please contact Linus Paulus at (916) 653-3947.

TWENTY: All work approved by this permit shall be in accordance with the final (100%) submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

TWENTY-ONE: Prior to commencement of excavation, the permittee shall create a photo record, including associated descriptions, of existing levee conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

TWENTY-TWO: Upon completion of the project, the permittee shall perform a levee crown profile survey and create a photo record, including associated descriptions, of "as-built" levee conditions. The levee crown profile survey and photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 120 days of project completion.

TWENTY-THREE: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources, Reclamation District No. 1000 or any other agency responsible for maintenance.

TWENTY-FOUR: The permittee shall contact the Department of Water Resources by telephone, (916) 574-1213, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-FIVE: Prior to starting construction under this permit the permittee shall contact the Department of Water Resources regarding inspection of the project during construction.

TWENTY-SIX: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board.

TWENTY-SEVEN: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional civil engineer registered in the State of California, certifying the work was inspected and performed in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

TWENTY-EIGHT: If FEMA certification of the levee by the U. S. Army Corps of Engineers is being considered, the project proponent should contact the U. S. Army Corps of Engineers regarding inspection of the project during construction for FEMA certification purposes.

TWENTY-NINE: The permittee shall contact the U. S. Army Corps of Engineers regarding inspection of the project during construction as the proposed work is an alteration to the existing Federal Flood Control Project that will be incorporated into the Sacramento River Flood Control Project, an adopted plan of flood control.

THIRTY: The Central Valley Flood Protection Board, Department of Water Resources and Reclamation District No. 1000 shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

THIRTY-ONE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

THIRTY-TWO: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

THIRTY-THREE: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-FOUR: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith. This permit is not valid until the Sacramento Area Flood Control Agency provides written assurances satisfactory to the Central Valley Flood Protection Board that the Sacramento Area Flood Control Agency will defend, indemnify and hold the Board and the State of California, including its agencies, departments, boards, and commissions, and their respective officers, agents, employees, successors and assigns, safe and harmless of and from all claims and damages arising out of the project undertaken pursuant to this permit, and to discharge this obligation to the extent allowed by law.

THIRTY-FIVE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

THIRTY-SIX: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board proposed revision to the Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit 125 and the associated "as-built" drawings for system alterations approved by Exhibit 1 that are to be incorporated into the federal Sacramento River Flood Control Project.

THIRTY-SEVEN: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

THIRTY-EIGHT: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

THIRTY-NINE: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

FORTY: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

FORTY-ONE: The permittee shall identify all encountered encroachments for this project and determine if they have an existing Central Valley Flood Protection Board permit or not. If the encountered encroachment has an existing permit the permittee for this project shall on behalf of the current owner/permittee of the encroachment submit all paperwork necessary to the Central Valley Flood Protection Board to bring the encroachment up to current standards incorporating the proposed modifications to the existing encroachment. If the encountered encroachment does not have a Central Valley Flood Protection Board permit or other authorization a determination shall be made as to the need for the encroachment and appropriate permitting or abandonment shall occur. All encroachments shall be shown on as-built drawings for the encroachment and the overall project.

FORTY-TWO: During construction of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the attention of the Flood Project Inspector immediately and prior to continuation. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Flood Project Integrity and Inspection Branch Inspector.

FORTY-THREE: The stability of the levee shall be maintained at all times during construction.

FORTY-FOUR: Excavations below the design flood plane and within the levee section or within fifty (50) feet of the projected waterward and landward levee slopes shall have side slopes no steeper

than 1 horizontal to 1 vertical. Flatter slopes may be required to ensure stability of the excavation.

FORTY-FIVE: A profile of the levee crown roadway and access ramps that will be utilized for access to and from the borrow area shall be submitted to the Central Valley Flood Protection Board prior to commencement of excavation.

FORTY-SIX: The haul ramps and utilized levee crown roadway shall be maintained in a manner prescribed by the authorized representative of the Department of Water Resources, Reclamation District No. 1000 or any other agency responsible for maintenance.

FORTY-SEVEN: Any damage to the levee crown roadway or access ramps that will be utilized for access for this project shall be promptly repaired to the condition that existed prior to this project.

FORTY-EIGHT: Equipment used in the construction of the cutoff wall shall not exceed the live-load surcharge to a level that causes or contributes to the instability of the levee during construction operations.

FORTY-NINE: Fluid pressures in the cutoff wall construction zone shall be carefully monitored and controlled to minimize the potential for hydrofracturing.

FIFTY: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

FIFTY-ONE: Excess bentonite or other cutoff wall fluids shall be properly disposed of outside of the floodway. The bentonite or other cutoff wall fluids shall not be used as backfill material for levee reconstruction.

FIFTY-TWO: Restoration of the degraded levee shall not begin until the cutoff wall has cured and achieved at least 80 percent of its design strength prior to beginning backfill or as allowed by the Corps.

FIFTY-THREE: All fencing, gates and signs removed during construction of this project shall be replaced in kind and at the original locations. If it necessary to relocate any fence, gate or sign, the permittee is required to obtain written approval from the Central Valley Flood Protection Board prior to installation at a new location if not shown on the submitted drawings.

FIFTY-FOUR: All temporary fencing, gates and signs shall be removed upon completion of project.

FIFTY-FIVE: Any pipe or conduit being reinstalled in the levee section or within fifty (50) feet of both the waterward and landward levee toes shall meet Title 23 standards.

FIFTY-SIX: Fill on the levee slopes shall be keyed into the existing levee section with each lift.

FIFTY-SEVEN: Backfill material for excavations within the levee section and within fifty (50) feet of the levee toes shall be placed in 4- to 6-inch layers, moisture conditioned above optimum moisture content, and compacted to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

FIFTY-EIGHT: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the levee section and within fifty (50) feet of the levee toes.

FIFTY-NINE: Earthen material meeting the requirements designated in Condition Sixty-One shall be used when constructing or reconstructing the waterside levee slope and levee crown fill areas, and no cuts shall remain in the levee section upon completion.

SIXTY: Fill material shall be placed only within the area indicated on the approved plans.

SIXTY-ONE: All fill material shall be impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

SIXTY-TWO: The fill surface area shall be graded to direct drainage away from the toe of the levee.

SIXTY-THREE: The slopes of the proposed levee shall be no steeper than 3 horizontal to 1 vertical on the water side and 2 horizontal to 1 vertical on the land side.

SIXTY-FOUR: The reconstructed levee crown roadway and access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

SIXTY-FIVE: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

SIXTY-SIX: The project site including the levee section and access ramps shall be restored to at least the condition that existed prior to commencement of work and there shall be no visible trace of the cutoff wall.

SIXTY-SEVEN: All debris generated by this project shall be disposed of outside the floodway and off the levee section.

SIXTY-EIGHT: The permittee shall replant or reseed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

SIXTY-NINE: In the event existing revetment on the channel bank or levee slope is disturbed or displaced, it shall be restored to its original condition upon completion of the proposed installation.

SEVENTY: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

SEVENTY-ONE: Any additional encroachment(s) in the floodway, on or in the levee section and within fifty (50) feet of the landward levee toe require an approved permit from the Central Valley Flood Protection Board.

SEVENTY-TWO: By acceptance of this permit, the permittee (Sacramento Area Flood Control

Agency) acknowledges the authority of the Central Valley Flood Protection Board to regulate all future encroachments along this levee reach including those that may encroach upon alterations approved by this permit prior to incorporation into the federal Sacramento River Flood Control Project by the Corps of Engineers.

SEVENTY-THREE: If the permittee or successor does not comply with the conditions of the permit and an enforcement by the Central Valley Flood Protection Board is required, the permittee or successor shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees.

SEVENTY-FOUR: The permittee acknowledges that some portions of the levee may be overbuilt to account for settlement and that upon adoption of the updated Central Valley Flood Management Plan the permittee shall perform a levee crown profile survey of all levee crown covered by this permit and said profile shall be compared to the levee crown profile adopted in the updated Central Valley Flood Management Plan. The permittee shall ensure that the levee crown does not exceed the updated Central Valley Flood Management Plan profile.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922
DEC 11 2007

Exhibit 1

Navigation and Flood Control Unit (18159-2)

Mr. Jay Punia, General Manager
The Reclamation Board
State of California
3310 El Camino Ave. Rm. LL40
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed an application for a permit by Sacramento Area Flood Control Agency (Reclamation Board Number 18159-2). The project includes raising approximately 5.3 miles of levee, constructing a setback levee, and constructing 4.3 miles of a seepage cutoff wall on the left bank levee of the Natomas Cross Canal. The project is located in Sacramento, between Howsley and Sankey Road in Sections 4, 8, 18 and 24, Township 11 North, Range 3 and 4 East, M.D.B.&M. Survey, Sutter County, California.

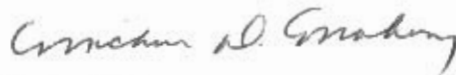
The District Engineer has no objection to a conditional approval of this application by your Board from a flood control standpoint subject to the following conditions:

- a. That the permit shall be subject to HQ USACE issuing Section 408 approval. No construction shall be allowed until Section 408 approval is obtained. If HQ USACE disapproves the Section 408 request, the Reclamation Board shall notify the applicant that the conditional permit is no longer valid.
- b. That no stockpiles of material or equipment shall remain in the floodway during the flood season of November 1 to April 15.
- c. That the applicant shall use imported fill material for the setback levee.
- d. That in the event trees and brush are cleared, they shall be properly disposed of either by complete burning or complete removal outside the limits of the project works.

A Section 10 and/or Section 404 permit may be required. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250.

If you have any questions concerning our comments on this permit application, please contact Mr. Mohsen Tavana at (916) 557-5282 or Mr. Robert Murakami at (916) 557-6738.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michael D. Mahoney".

Michael D. Mahoney, P.E.
Chief, Construction-Operations Division

CF:

Mr. Jeremy Arrich, Chief, Flood Project Integrity and Inspection Branch,
3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

FEB 29 2008

Flood Protection and Navigation Section (18159-3)

Mr. Jay Punia, Executive Officer
Central Valley Flood Protection Board
State of California
3310 El Camino Ave. Rm. LL40
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed an application for a permit by Sacramento Area Flood Control Agency (Reclamation Board Number 18159-3). The project includes constructing a setback levee by placing approximately 21,400 linear feet of fill and installing a seepage cutoff wall in the left bank levee of the Sacramento River. The project is located in Sacramento, between the Natomas Cross Canal and Elverta Road on the Garden Highway in Sections 1, 12, and 13, Township 10 North, Range 3 East, M.D.B.&M. Survey, Sacramento County, California.

The District Engineer has no objection to a conditional approval of this application by your Board from a flood control standpoint subject to the following conditions:

a. That the permit shall be subject to HQ USACE issuing Section 408 approval. No construction shall be allowed until Section 408 approval is obtained. If HQ USACE disapproves the Section 408 request, the Reclamation Board shall notify the applicant that the conditional permit is no longer valid.

b. That no stockpiles of material or equipment shall remain in the floodway during the flood season of November 1 to April 15.

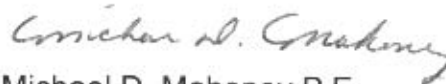
c. That the applicant shall use imported fill material for the setback levee.

d. That in the event trees and brush are cleared, they shall be properly disposed of either by complete burning or complete removal outside the limits of the project works.

A Section 10 and/or Section 404 permit application (2007-211) is in process for this work.

If you have any questions concerning our comments on this permit application, please contact Ms. Meegan Nagy at (916) 557-7257 or Mr. Robert Murakami at (916) 557-6738.

Sincerely,

A handwritten signature in cursive script, reading "Michael D. Mahoney".

Michael D. Mahoney P.E.
Chief, Construction-Operations Division

CF:

Mr. Jeremy Arrich, Chief, Flood Project Integrity and Inspection Branch,
3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821

**RECORD OF DECISION
408 PERMISSION AND DEPARTMENT OF THE ARMY 404 PERMIT TO
SACRAMENTO AREA FLOOD CONTROL AGENCY FOR THE NATOMAS LEVEE
IMPROVEMENT PROJECT
SACRAMENTO, CA**

The Natomas Levee Improvement Program (NLIP), Phase 2 Project is a flood damage reduction project proposed for construction by the Sacramento Area Flood Control Authority (SAFCA) as presented by the State of California Central Valley Flood Protection Board (CVFPB). The Secretary of the Army has delegated approval authority to the Chief of Engineers for the U.S. Army Corps of Engineers (USACE or Corps) to issue permission to proceed with the proposed construction pursuant to 33 U.S.C. Section 408 (408 Permission) based on finding that the proposed alteration is not injurious to the public interest and will not impair the usefulness of the Sacramento River Flood Control Project. In accordance with 33 CFR Parts 320 to 332, the Corps is delegated authority to issue Department of Army permits (DA permits) for discharges of dredged or fill material into "waters of the United States", including wetlands, pursuant to Section 404 of the Clean Water Act and for work or structures affecting navigable waters under Section 10 of the Rivers and Harbors Act.

I. Background

SAFCA proposes improvements to the Federal perimeter levee system of the Natomas Basin in Sutter and Sacramento Counties, California, and associated landscape and irrigation/drainage infrastructure modifications. These improvements would be implemented in three phases; Phase 2, initiated in 2008, Phase 3, initiated in 2009, and Phase 4, initiated in 2010. The project is proposed as early implementation of the anticipated outcome of the American River Common Features Project General Reevaluation Report.

The purpose of the proposed program and project is to provide at least 100-year flood protection to segments of the Federal levee system that do not currently meet that standard as quickly as possible. The remaining segments would be improved by the Corps to meet Federal and state standards for 200-year flood protection following authorization of the Common Features Project.

The Final Environmental Impact Statement (FEIS), dated November 2008, for the 33 U.S.C. Section 408 Permission to the CVFPB addressed flood damage reduction and habitat conservation in the Natomas Basin located in Reclamation District 1000 in Sacramento and Sutter Counties, California. The FEIS combined project-level analysis of the 2008 construction phase (i.e. Phase 2) of the NLIP and program-level analysis of the 2009 (i.e. Phase 3) and 2010 (i.e. Phase 4) construction phases. The proposed program and projects focus only on segments that do not currently meet the 100-year design criteria adopted by the Federal Emergency Management Agency (FEMA): approximately 18 miles along the Sacramento River east levee, approximately 5 miles along the Natomas Cross Canal (NCC) south levee, and more than 3 miles along the Pleasant Grove Creek Canal (PGCC) west levee. SAFCA proposes to modify these segments to meet the design criteria by the end of 2010. Phase 2 specifically focuses on improvements to address remaining underseepage and levee height deficiencies along the entire 5.3-mile length of the NCC, as well as underseepage, erosion, encroachment,

and levee height deficiencies along the upper 4.5 project miles of the Sacramento River and NCC east levee.

This Record of Decision (ROD) approves the project at a program level and the specific flood damage reduction features proposed for implementation in Phase 2 as defined below :

- NCC south levee improvements: Raise and realign the NCC south levee to provide additional levee height and more stable waterside and landside slopes. Construct a seepage cutoff wall through the levee crown in Reaches 3-7.
- Sacramento River east levee Reaches 1-4B: Construct an adjacent, raised levee from the NCC to reach 4B with a combination of cutoff walls, seepage berms, and relief wells for seepage remediation where required.
- Irrigation and drainage infrastructure improvements: Relocate the highline Elkhorn Main Irrigation Canal between the North Drainage Canal and Elkhorn Reservoir in reaches 4B – 6A.
- Construct a new canal designed to provide drainage and associated giant garter snake (GGS) habitat between the North Drainage Canal and Elkhorn Reservoir
- Remove a deep culvert at the location of Pumping Plant No. 2.

An application for a DA Permit was originally received in October 2007. An initial public notice describing the proposed project was issued in January 2008. A complete revised application for the DA permit was received in June 2008.

A letter requesting 408 permission was received in February 2008 from the CVFPB. The project requires permission to alter the existing federally authorized levee and construct a new adjacent setback levee that would become part of the federally authorized flood risk reduction project.

II. Alternatives Considered

In addition to “no action”, the following alternatives were considered:

1. Alternative 1: (Preferred and Selected Alternative) Construct an Adjacent Setback Levee along the Sacramento River East Levee. This alternative involves creating an adjacent setback levee along the east bank of the Sacramento River along Reaches 1, 2, 3, 4A and 4B. This alternative would involve relocating the Elkhorn Canal, raising and realigning the NCC south levee, and creating a new GGS Drainage Canal. Repairs and improvements would consist of constructing cutoff walls, seepage berms, and relief wells for seepage removal where required.

2. Alternative 2: Raise in Place with a 1,000-Foot Levee Setback in the Northern 1.5 Miles along the Sacramento River East Levee. This alternative would involve raising the landside slope of the east levee of the Sacramento River to provide additional levee height and more stability. A 1,000 foot setback levee would be constructed along Reaches 1 and 2. This alternative would involve relocating the Elkhorn Canal, raising and realigning the NCC south

levee, and creating a new GGS Drainage Canal. Repairs and improvements would consist of constructing cutoff walls, seepage berms, and relief wells for seepage removal where required.

3. Alternative 3: Construct an Adjacent Levee with a 500-Foot Levee Setback in the Northern 1.5 Miles along the Sacramento River East Levee. This alternative involves creating a 500 foot setback levee adjacent to the existing levee on the east bank of the Sacramento River along Reaches 1 and 2. This alternative would also involve relocating the Elkhorn Canal, raising and realigning the NCC south levee, and creating a new GGS Drainage Canal. Repairs and improvements would consist of constructing cutoff walls, seepage berms, and relief wells for seepage removal where required.

The environmentally preferred and Least Environmentally Damaging Practicable alternative is Alternative 1, construction of adjacent setback levee along Reaches 1-4A of the Sacramento River east levee and raising and installing cutoff walls on the NCC.

III. Responses to FEIS Comments

Two comment letters were received during the FEIS public comment period. These comments were from the United States Environmental Protection Agency (USEPA) and the Garden Highway Association. Their comments and USACE responses, in italics, to those comments are below.

USEPA:

- Requested continued coordination with the regulatory agencies. *The Corps along with SAFCA will continue to coordinate with the regulatory agencies throughout the project.*
- Requested that the Clean Water Act 404(b)(1) Alternative Analysis be included as an appendix. *This has been included as an appendix to the ROD.*
- Recommended implementation of the Natomas Basin flood safety plan. *The 408 permission has a provision that this must be provided within one year of issuance.*
- Recommended the ROD describe how future development would not constrain effective flood protection management nor compromise the flood benefits of this project. *The proposed program and Phase 2 project would substantially lessen the probability of an uncontrolled flood in the Natomas Basin due to levee failure. If no additional flood damage reduction measures are implemented, the result would be a steady rise in expected annual damages that would undermine the accomplishments of the program. As such, SAFCA is implementing a development impact fee program. Based on Sacramento Area Council of Governments growth projections, this fee program would generate approximately \$400 million over the next 30 years. This revenue would be used to finance continued flood risk reduction actions for the Natomas Basin and the Lower American and Sacramento Rivers.*

Garden Highway Association:

- The Garden Highway Association submitted comments on the Draft Environmental Impact Statement (DEIS) and requested further studies be completed by the Corps. *Since then, the Corps has completed engineering reviews of all technical analysis including the hydraulic analysis performed by SAFCA and included the results as an appendix to the 408 Permission.*
- New comments submitted on the FEIS were related to the protection of fish, wildlife and flora. *The Corps consulted with the appropriate resource agencies. The Corps has received a Biological Opinion (BO) and the United States Fish and Wildlife Service (USFWS) and National Marine Fishery Service (NMFS) have determined that the project will not result in significantly adverse impacts on listed species in the project area.*

The Corps previously responded to the remaining comments submitted by the Garden Highway Association in the FEIS.

IV. Other Applicable Laws and Policies

1. National Environmental Policy Act (NEPA) of 1969, as Amended: The proposed action is considered a major Federal action. The Corps determined the proposed action had the potential to significantly affect the quality of the human environment. Scoping for the Environmental Impact Statement (EIS) began on December 17, 2007 when a notice was distributed to a large mailing list to announce a public scoping meeting. The public scoping meeting was held on January 9, 2008. A Notice of Intent to Prepare an EIS was published in the Federal Register on January 31, 2008. A town hall meeting was held on June 11, 2008 at the Natomas Community Center. Representatives from USACE, SAFCA and the FEMA were present to answer questions and provide information about the project to the 70 individuals in attendance. On June 13 2008, the Corps issued a DEIS. On July 16, 2008, during the comment period, a public meeting was held in which written comments were received. The public comment period for the DEIS closed on 28 July 2008. Sixteen comment letters were received. The major areas of controversy associated with the comments were construction related effects on Garden Highway residents and concerns regarding the modeling used to analyze the project's hydraulic impacts. These issues were the subject of a California Environmental Quality Act (CEQA) lawsuit brought against SAFCA by the Garden Highway Community Association which was settled on April 18, 2008. The Corps issued a FEIS in November 2008. A Notice of Availability was published in the Federal Register on November 14, 2008. Two comments were received on the FEIS.

2. Federal Clean Water Act (CWA) of 1972, as Amended: The proposed program and project work required Department of Army (DA) authorization under Section 404 of the CWA. The proposed project is in compliance with the Section 401 of the CWA. The Central Valley Regional Water Quality Board issued a water quality certification under Section 401 of the Clean Water Act for the proposed actions on January 16, 2009. The certification is included as a special condition of the DA permit and the Section 408 permission.

3. Rivers and Harbors Act of 1899, as Amended: The proposed action would require permission under Section 10 (33 USC 403) for the reconstruction of Pump Station No. 2 because drainage and outfall pipes will be extended into the Sacramento River, a navigable

waterway. The proposed action is also subject to Section 408 (33 USC 408) permission. The FEIS will be used to support the Section 10 and 408 decisions for the proposed actions.

4. Fish and Wildlife Coordination Act (FWCA) of 1934, as Amended: The USFWS, NMFS, and the California Department of Fish and Game (CDFG) have provided coordinated input on the project. Consultation with CDFG is ongoing. Appropriate coordination with USFWS will continue throughout the program. The USFWS Coordination Act Report was completed on October 15, 2008. The proposed action is in full compliance with the FWCA.

Endangered Species Act Section 7 consultation with NMFS and USFWS has been completed.

5. Endangered Species Act (ESA) of 1973, as Amended: Following formal consultation under Section 7 of the ESA for the proposed actions, USFWS issued a BO on October 9, 2008 for the valley elderberry longhorn beetle (VELB) and GGS. The BO is incorporated into the DA permit and the Section 408 permission as a special condition. The Corps also consulted with NMFS. On January 14, 2009, NMFS concurred that the proposed action was not likely to adversely affect Central Valley steelhead, Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, their critical habitat and Southern Distinct Population Segment of North American green sturgeon.

6 Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976 as Amended: In a letter dated January 14, 2009, NMFS determined the proposed action would not adversely affect Essential Fish Habitat for Pacific salmon and had no additional conservation recommendations. The proposed action is in compliance with the MSA.

7. Migratory Bird Treaty Act (MBTA) of 1918: Compliance with the MTBA is being addressed through compliance with the ESA, FWCA, and California Endangered Species Act (CESA). Prior to construction, SAFCA will obtain authorization for take under Section 2081 of the CESA and will comply with the terms of the permit issued for that purpose.

8. Clean Air Act (CAA) of 1963, as Amended: The proposed permit has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the CAA. Based on the modeling conducted, it is foreseeable that unmitigated construction generated emissions would result in or substantially conflict with applicable air quality planning efforts. However, with implementation of mitigation identified in the FEIS, emissions would be reduced below the USEPA's general conformity *de minimis* thresholds. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this permit action.

9. National Historic Preservation Act of 1966, as Amended: This project is in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. USACE has initiated Section 106 consultation with the State Historic Preservation Officer (SHPO). All evaluations of resource identification, determinations of significance, and determinations of project effects and mitigation/treatment measures will meet the requirements of 36 CFR 800 (procedures for implementing Section 106) through a Programmatic Agreement (PA) between USACE, the SHPO, and SAFCA.

10. Executive Order (EO) 11988: Floodplain Management: There are no practicable alternatives to the proposed program and project which would avoid adverse effects and incompatible development in the floodplain. The proposed program will reduce flood risk and provide habitat values.

11. Executive Order 11990: Protection of Wetlands: No proposed action includes all practicable measures to minimize harm and loss to wetlands. Based on the FEIS and proposed compensatory mitigation for project impacts, the proposed action complies with the EO.

12. Executive Order 13175: Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians: The proposed action does not implement any regulations, legislation, policies, or actions that have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. Native American participation has been incorporated the terms of the Programmatic Agreement entered into under Section 106 of the NHPA and executed on May 8, 2008.

13. Farmland Protection Policy Act (FPPA) (7 USC 4201 et seq.): The proposed action requires converting areas of farmland to flood control facilities, but includes mitigation to acquire agricultural easements at a 1:1 ratio for farmlands removed from agricultural use. The project complies with the FPPA because it provides for compensation for unavoidable direct conversion of agricultural land to non-agricultural uses, will provide infrastructure that will support the continuation of agricultural resources on the west side of the Natomas Basin, and is consistent with state and regional planning efforts that will protect farmland on a regional scale from development.

V. Consideration of Mitigation Measures

Although all practicable means to avoid, minimize, and mitigate adverse effects on environmental resources have been incorporated into the proposed program and project, the preferred alternative would have several unavoidable, significant effects.

The volume of borrow material and associated haul traffic, required for project implementation would result in unavoidable, significant, and temporary increases in traffic on local roadways. Creation and implementation of a traffic routing plan will greatly reduce the increased traffic levels, but it is anticipated that traffic during some periods will still exceed acceptable thresholds. During some time periods, temporary short-term noise and vibrations affecting residents along Garden Highway would also be significant and unavoidable.

Due to the large volume of the haul truck traffic and the operation of a wide range of construction equipment, temporary emissions of ROG, NO_x, and PM₁₀ during construction would result in significant and unavoidable air quality impacts. Implementation of mitigation measures will greatly reduce project generated construction emissions but will not reduce all emissions to below air quality management district standards. To compensate for any emission above these standards, SAFCA has agreed to provide payment into the applicable air quality mitigation fee program.

The expansive footprint of the project would result in the conversion of a significant amount of important farmland to non-agricultural use. Mitigation intended to reduce project effects on

farmland has been included in the mitigation and monitoring program adopted by SAFCA. Mitigation includes the acquisition of agricultural conversion easements at a 1:1 ratio, with the lands on which the permanent easements are acquired are maintained for agricultural use.

Through coordination with the USFWS, the project includes mitigation for impacts to the VELB, the GGS, and their habitats. Proposed compensatory mitigation for project impacts on VELB habitat includes planting of vegetation and protection of habitat that would support the species. Proposed compensatory mitigation for project impacts to GGS includes creation of marsh habitat and the protection of agricultural areas to serve as habitat for GGS. The complete details of the compensation for giant garter snake and VELB are included in the BO from the USFWS dated October 9, 2008.

A Mitigation and Monitoring Plan (MMP) has been prepared and a Long-Term Management Plan (LTMP) is being prepared to guide SAFCA and its partners as they manage the compensatory land in perpetuity. The MMP and LTMP would establish specific success criteria for the habitat components, specify remedial measures to be undertaken if success criteria are not met, and describe short- and long-term management and maintenance of the habitat lands. Monitoring of the mitigation site(s) will occur for at least 8 years.

Through coordination with NMFS, the project includes designs to compensate for the loss of riparian vegetation and other impacts, permanent or temporary, to vegetation on the water side of the Sacramento River East levee slope. Permanent impacts will be compensated through re-vegetation with native species at a 1:1 ratio, in-kind where feasible. A slurry spill contingency plan will be developed and included in the Stormwater Pollution and Prevention Plan (SWPPP) prepared prior to construction by the construction contractor. This SWPPP will include plans to notify NMFS in case of a spill and measures to ensure any spill would be handled properly according to standard protocols.

Coordination with the SHPO in accordance with Section 106 of the NHPA, has led to the determination that at least one potentially, significant cultural resources site could be affected by project activities. This has led to the development of a Programmatic Agreement that stipulates that Historic Property Treatment Plans (HPTP) shall be prepared to mitigate adverse effects to historic properties. The HPTP contains mitigation measures for potential effects on cultural resources that are consistent with those proposed in the FEIS.

The Record of Decision (ROD) complete the National Environmental Policy Act process. The ROD will be publicly available upon request, or can be found on the Sacramento District and SAFCA websites. No action was taken prior to the 30-day review period after posting of the FEIS on November 14, 2008.

VI. 408 Permission

Special Conditions for 408 Permission

In order to assure that the proposed project does not impair the usefulness of the existing Federal project and that it not be injurious to the public interest, the following conditions will be imposed and are as follows:

1. This Section 408 approval does not authorize the take of any threatened or endangered species or designated critical habitat. In order to legally take a listed species, there

must be a separate authorization under an ESA Section 10 permit, or a BO under ESA Section 7, with incidental take provisions with which you must comply. The USFWS BO Number 81420-2008-F-0195-5 dated October 9, 2008 contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the BO. Section 408 approval is conditional upon compliance with all of the mandatory terms and conditions associated with the BO, which terms and conditions are incorporated herein by reference. Failure to comply with the terms and conditions associated with the incidental take statement in the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with the Corps' approval to proceed. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO and with the ESA. The CVFPB must comply with all conditions of this BO, including those ascribed to the Corps. The NMFS letter, number 2008/05035, dated January 14, 2009, stated that the NLIP Phase 2 project is not likely to adversely affect Central Valley steelhead, Central Valley spring-run Chinook salmon, or North American green sturgeon or their designated critical habitat or the Essential Fish Habitat of Pacific salmon.

2. You are required to submit a revision to the Reclamation District (RD) 1000 Operation and Maintenance (O&M) (33 CFR Section 208.10) Manual for review and approval by the U.S. Army Corps of Engineers, Sacramento District within 180 days of construction completion. As-Built drawings and permanent maintenance easement boundaries shall be submitted in conjunction with the draft O&M manual. Upon receipt of the draft O&M manual, this office will schedule a transfer inspection with you to verify all construction has been completed in accordance with the permission. Any features found to be deficient during that inspection will require your correction prior to the Corps accepting the alterations as part of the Federal project. Construction data is required to be provided to this office for review by our Engineering Division during construction. Within 180 days of construction completion, you must furnish a certification report that the work has been completed in accordance with the conditions of this permission.

3. There shall be no disposal, including temporary disposal, of any material in any wetlands or other waters of the United States (US). Best management practices, such as silt fences and mulching, shall be employed to ensure exposed soils do not erode and wash into any waters of the US. Erosion control matting shall not be used to avoid entangling giant garter snakes in it.

4. To ensure your project complies with Section 106 of the NHPA, you must comply, prior to construction, with all terms of the PA between the USACE, SAFCA and the SHPO signed on May 1, 2008.

5. To ensure there is mitigation for residual flood risk, CVFPB is required to develop a Floodplain Management Plan that includes proactive elements for flood information dissemination, public awareness notification and training, flood warning and evacuation plans, emergency flood operations plan with annual exercise, dedicated evacuation resources and post-flood recovery plans. This plan shall be submitted within one-year of the issuance of the Section 408 letter of permission. You are required to participate in and comply with applicable Federal floodplain management and flood insurance programs.


6. You will cooperate and participate in the Safety Assurance Review plan development and implementation per the USACE guidance of November 17, 2008, forthcoming USACE guidance, and Section 2035 of the Water Resources Development Act of 2007.

VII. Section 408 Findings

408 Permission

Based on my review of the 33 U.S.C. 408 recommendation package, the FEIS, the views of other Federal, State, and local agencies, and input from the public, I find the recommended Natomas Levee Improvement Program Phase 2 project in the document to be technically adequate and not an impairment to the usefulness of existing Federal project; to be in accordance with environmental statutes; to be without significant adverse hydraulic impacts; and to not be injurious to the public interest. Therefore, the request under 33 U.S.C. Section 408, made by the State of California CVFPB on behalf of SAFCA to alter the Sacramento River Flood Control Project by construction of the Natomas Levee Improvement Program Phase 2 Project, is approved.

21 JAN 09
Date


Steven L Stockton
Director of Civil Works

VIII. DA Clean Water Act Section 404 Permit

Compliance with 404(b)(1) Guidelines

1. Are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the U.S." or at other locations within these waters?

Yes ____ No X

2. If the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available?

Yes X No ____

3. Will the discharge:

Violate state water quality standards?

Yes ____ No X

Violate toxic effluent standards under Section 307 of the Clean Water Act?

Yes ____ No X

Jeopardize endangered or threatened species or their critical habitat?

Yes ____ No X

Violate standards set by the Department of Commerce to protect marine sanctuaries?

Yes ____ No X

4. Evaluation of the information in EIS indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s):

(X) based on the available information, the material is not a carrier of contaminants.

() the levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.

() acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.

5. Will the discharge contribute to significant degradation of "waters of the U.S." through adverse impacts to:

Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and/or special aquatic sites?

Yes ____ No X

Life stages of aquatic life and/or wildlife?

Yes ____ No X

Diversity, productivity, and stability of the aquatic life and other wildlife? Or wildlife habitat or loss of the capacity of wetlands to assimilate nutrients, purify water or reduce wave energy?

Yes ____ No X

Recreational, aesthetic and economic values?

Yes ____ No X

f. Will all appropriate and practicable steps be taken to minimize adverse impacts of the discharge on the aquatic ecosystem? Does the proposal include satisfactory compensatory mitigation for losses of aquatic resources?

Yes X No

Public Interest Review

The decision whether to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluating the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. If the proposed activity complies with the USEPA's 404(b)(1) guidelines, a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The EIS analyzed a number of factors relevant to the public interest review. These factors include but are not limited to socioeconomics, aesthetics, wetlands, historic properties, fish and wildlife, flooding and floodplain values, land use, mineral needs, water quality, energy needs, safety, and Prime and unique farmland.

1. The relative extent of the public and private need for the proposed work has been considered: The proposed action is needed to provide flood protection for the Natomas Basin, including existing residents and public facilities. The project will also allow private interests to continue to construct residential and commercial developments in the area.

2. The practicability of using reasonable alternative locations and/or methods to accomplish the objective of the proposed structure or work has been evaluated. Several reasonable alternatives have been reviewed as part of the permit process, including practicable alternatives in the EIS. With mitigation, the proposed action is the least environmentally damageable, practicable alternative.

3. The extent and permanence of the beneficial and/or detrimental effects that the proposed structures or work may have on the public and private uses for which the area is suited has been reviewed: The areas to be impacted are primarily used for private agricultural purposes. The proposed action will result in a permanent change in use in areas where the levee will be widened, in the adjacent levee alignment, and in certain borrow areas. However, some borrow areas will be returned to agricultural use. Moreover, the proposed action is planned to protect existing and future uses in the Basin from potentially catastrophic flooding which could cause significant adverse impacts to natural and man-made resources.

Special Conditions for the DA Permit

1. The document entitled Mitigation and Monitoring Plan, Natomas Levee Improvement Program, Landside Improvement Project dated December 2008, is incorporated by reference as a condition of this authorization except as modified by the following special conditions.

2. In no case shall initiation of the construction of compensatory mitigation, specifically, the GGS canal and Brookfield rice field restoration be delayed beyond September 30, 2009. Construction of compensatory mitigation must be completed no later than September 30, 2010.

3. To ensure that mitigation is completed as required, you must notify the District Engineer of the start date and the completion date of the mitigation areas' construction, in writing and no later than ten calendar days after each date.

4. To provide a permanent record of the completed mitigation work, you shall provide two complete sets of as-builts of the completed mitigation areas (i.e., GGS canal and Brookfield rice field restoration) to the Corps of Engineers. The as-builts must indicate changes made from the original plans in indelible red ink. These as-builts must be provided to this office no later than 60 days after the completion of construction of each of the mitigation areas.

5. To protect the integrity of the preserved areas and avoid unanticipated future impacts, no roads, utility lines, trails, benches, equipment or fuel storage, grading, firebreaks, mowing, grazing, pesticide use, burning, or other structures or activities shall be constructed or occur within the preservation areas without specific, advance written approval from the Corps of Engineers.

6. The Corps permit does not authorize you to take an endangered species, in particular GGS, VELB, or designated critical habitat. In order to legally take a listed species, you must have separate authorization under the ESA (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with "incidental take" provisions with which you must comply). The USFWS BO (Number 81420-2008-F-0195-5, October 9 2008), contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with "incidental take" of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA. The CVFPB and SAFCA must comply with all conditions of this BO, including those ascribed to the Corps.

7. To further ensure your project complies with the ESA, you must implement all of the mitigating measures identified in the enclosed NMFS letter of concurrence from January 14, 2009 including those ascribed to the Corps therein. If you are unable to implement any of these measures, you must immediately notify this office and the NMFS so we may consult as appropriate, prior to initiating the work, in accordance with Federal law.

8. To ensure your project complies with Section 106 of the NHPA, the CVFPB and SAFCA must comply with all terms of the PA between the USACE, SAFCA, and the SHPO signed on May 1, 2008, and is incorporated by reference as a special condition of the permit.

9. Prior to initiating any activity authorized by this permit, you shall, to insure long-term viability of the GGS canal and Brookfield rice field restoration mitigation areas:

a. Establish a fully-funded endowment(s) to provide for maintenance and monitoring of these areas.

b. Designate an appropriate conservation-oriented third party entity to function as preserve manager and to hold the conservation easements.

c. Record permanent conservation easements and deed restrictions maintaining both areas as wetland preserve and wildlife habitat in perpetuity. Copies of the proposed deed restriction language must be provided to the Corps of Engineers for approval prior to recordation.

10. Provide copies of the recorded documents to the Corps of Engineers no later than 30 days prior to the start of construction of any of the activities authorized by this permit.

11. To ensure completion of compensatory mitigation construction, you must post a performance bond or irrevocable standby letter of credit (Performance Security) for the amount of the construction with a federally approved surety. This Performance Security shall not be released until the Corps of Engineers has received the as-built drawings and approved them in writing. A draft letter for the Performance Security must be submitted to this office for review and approval.

12. You must allow representatives from the Corps to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

13. You must submit monitoring reports to this office for each year of the eight - year monitoring period, and for each additional year, if remediation is required, by December 31st of each year.

14. All terms and conditions of the Section 401 Water Quality Certification dated January 16, 2009, are expressly incorporated as conditions of this permit.

15. Your responsibility to complete the required compensatory mitigation as set forth in this permit will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the U.S. Army Corps of Engineers.

IX. DA Clean Water Act Section 404 Permit

1. The evaluation of the proposed action and alternatives was done in accordance with all applicable laws, executive orders, regulations, and agency regulations. The EIS and supporting documents are adequate and contain sufficient information to make a reasoned permit decision.

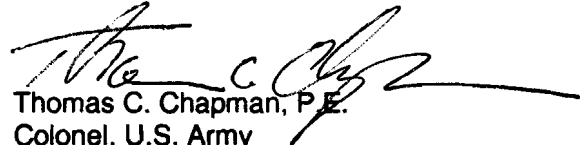
2. The selected alternative is the applicant's Proposed Action, and with appropriate and practicable mitigation measures to minimize environmental harm and potential adverse impacts of the discharges on the aquatic ecosystem and the human environment. The applicant's proposed project, as mitigated by these conditions, is considered the least environmentally damaging, practicable alternative.

3. The discharge complies with the Section 404(b)(1) guidelines, with the inclusion of appropriate and practicable general and special conditions in the permit to minimize pollution or adverse effects to the affected ecosystem.

4. Issuance of a Department of the Army permit, with the inclusion of special conditions on the permit, as prescribed by regulations published in 33 CFR Parts 320 to 332, and 40 CFR Part 320 is not contrary to the public interest.

I have reviewed and evaluated, in light of the overall public interest, the documents and factors concerning the permit application for the proposed action, as well as the stated views of interested agencies and the public. In doing so, I have considered the possible consequences of the proposed action in accordance with regulations published in 33 Code of Federal Regulations (CFR) Parts 320 through 332 and 40 CFR Part 230. Based on these considerations, and pursuant to my delegated authority under Section 404 of the Clean Water Act, I am issuing a DA permit to SAFCA to construct the NLIP Phase 2 subject to special conditions.

21 Jan 09
Date


Thomas C. Chapman, P.E.
Colonel, U.S. Army
Commanding



**DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922**

Executive Office

Mr. Jay Punia
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Ave., Room LL40
Sacramento, CA 95821

FEB 20 2009

Dear Mr. Punia,

The Director of Civil Works for the U.S. Army Corps of Engineers has approved your request to alter the Federal flood damage reduction project, Sacramento River Flood Control Project, Sacramento River East Levee Phase 1 (Reaches 1 – 4A, only) included in encroachment permit # 18159-3 and the Natomas Cross Canal South Levee Phase 2, included in encroachment permit # 18159-2 both a portion of the Natomas Levee Improvement Program Phase 2 improvements, (Encl 1), pursuant to U.S.C. Title 33, Chapter 9, Subchapter 1, Section 408. Permission has been granted for you to alter the aforementioned project works as it has been determined that such alteration will not be injurious to the public interest and will not impair the usefulness of the project works.

This letter of permission does not approve your proposed work on the Sacramento River east levee Reach 4B, also known as the Sacramento River east levee Phase 1B, which is included in encroachment permit #18159-3.

This letter of permission approves your proposed work as summarized below and described in detail in the February 2009 For Bid documents for the Natomas Cross Canal Phase 2 (STA 0+00 to 284+50) and the Sacramento River east levee Phase 1 (STA 0+00 to 190+00). These documents are herein collectively referred to as the Final Plans and Specifications.

The Natomas Cross Canal Phase 2 levee improvements consist of construction of a seepage cut-off wall and raising the levee embankment to a height to provide 200-year level of protection plus 3 feet of additional levee height. The seepage cut-off wall will be constructed of soil/bentonite mix with the traditional open trench method up to 80 feet deep. Vegetation and other encroachments will be removed from the levee landside and waterside slope, and within minimum 15 feet of the levee toe, to conform to the Corps vegetation requirements.

The Sacramento River East Levee Phase 1 project consists of construction of an adjacent levee embankment landside of the existing levee. The

adjacent levee will be constructed to provide 200 year level of protection plus 3 feet of additional levee height. A seepage cut-off wall will be constructed at the landside toe of the existing levee. A seepage berm 100 feet wide will be constructed on the landside toe of the levee along the downstream 8200 feet of the proposed Phase 1 levee. The berm will be widened to 300 feet on the last 500 feet of this Phase. The berms will be constructed in addition to the seepage cut-off wall to mitigate the underseepage issues on this levee reach. The vegetation within the new adjacent levee footprint and at least 15 feet from the new levee and berm toes will be removed by a previously approved construction contract.

The term "you" and its derivatives, as used in this approval letter, means the Central Valley Flood Protection Board or any future transferee. The term "this office" refers to the Sacramento District of the U.S. Army Corps of Engineers. Alteration of this project must be in accordance with the following conditions:

Special Conditions:

a. This letter of permission does not authorize you to take any threatened or endangered species or designated critical habitat. In order to legally take a listed species, you must have a separate authorization under an Endangered Species Act Section 10 permit, or a Biological Opinion under Endangered Species Act Section 7, with incidental take provisions with which you must comply. The U.S. Fish and Wildlife Service (USFWS) Biological Opinion Number 81420-2008-F-0195-5, dated October 9, 2008 contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with incidental take that is also specified in the Biological Opinion. Your authorization under this Corps permission is conditional upon your compliance with all of the mandatory terms and conditions associated with the Biological Opinion, which terms and conditions are incorporated herein by reference (Encl 2). Failure to comply with the terms and conditions associated with the incidental take statement in the Biological Opinion, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permission. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its Biological Opinion, and with the Endangered Species Act. The Central Valley Flood Protection Board must comply with all conditions of this Biological Opinion, including those ascribed to the Corps. The National Marine Fisheries Services (NMFS) letter, dated January 14, 2009, states that the proposed Natomas Levee Improvement project (NLIP) is not likely to adversely affect federally listed endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, Central Valley steelhead, Southern Distinct Population Segment (DPS) of North American green sturgeon, or their respective designated and proposed critical habitat (Encl 3).

b. You are required to submit a revision to the RD 1000 Operation and Maintenance (O&M) (33 CFR Section 208.10) Manual for this office's review within 180 days of project completion. As-Built drawings and permanent maintenance easement boundaries shall be submitted in conjunction with the draft Operation and Maintenance manual. Upon receipt of the draft O&M manual, this office will schedule a transfer inspection with you to verify all construction has been completed in accordance with this permission. Any features found to be deficient during that inspection will require your correction prior to the Corps acknowledging that the work was completed in accordance

with this letter of permission. Construction data is required to be provided to this office for review by our Engineering Division during construction. Within 180 days of project completion, you must furnish a certification report that the work has been completed in accordance with the conditions of this permission.

c. No work may result in a discharge, including a temporary discharge, of any material into any waters of the United States, including wetlands, unless such discharge is in compliance with your Department of the Army permit dated February 4, 2009. You must employ best management practices, such as silt fences and mulching, to ensure that exposed soils do not erode and wash into any waters of the US. To avoid entanglement of giant garter snakes, you may not use erosion control matting.

d. To ensure your project complies with Section 106 of the National Historic Preservation Act, you must comply with all terms of the *Programmatic Agreement among the U.S. Army Corps of Engineers, the Sacramento Area Flood Control Agency, and the California State Historic Preservation Officer, Regarding the Issuance of Permission Under the Authority of Section 408 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act for the Natomas Levee Improvement Program, Landside Improvements Project*, signed May 1, 2008.

e. To ensure there is mitigation for any increased residual flood risk, you are required to develop and submit a Floodplain Management Plan within one year of issuance of this permission that includes elements for flood information dissemination, public awareness training, flood warning and evacuation plans, emergency flood operations plan with annual exercise, dedicated evacuation resources, post-flood recovery plans. You are required to participate in and comply with applicable Federal floodplain management and flood insurance programs.

f. You will cooperate and participate in the Safety Assurance Review plan development and implementation per the USACE guidance of November 17, 2008, forthcoming USACE guidance, and Section 2035 of the Water Resources Development Act of 2007 prior to construction.

General Conditions:

- a. You must accept the operation and maintenance responsibility of the completed work including all vegetation management requirements specified in your O&M manual.
- b. You are responsible for continued operations and maintenance for this project during construction.
- c. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of your discovery. Unforeseen discoveries will be treated as specified in the Programmatic Agreement.

- d. Construction should be coordinated with this office. Additionally, the proposed work shall not be performed or remain during the flood season of November 1 to April 15, unless otherwise approved in writing by your Board.
- e. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this approval.
- f. Construction records, documenting field conditions, will be submitted to this office on a weekly basis.

Further Information:

- a. Limits of this permission.
 - 1. This permission does not obviate the need to obtain other Federal, state or local authorizations, approvals or permissions required by law.
 - 2. This permission does not grant any property rights or exclusive privileges.
 - 3. This permission does not authorize any injury to the property or rights of others.
- b. The determination of this office to approve this action as not injurious to the public interest, nor will it impair the usefulness of the project works, was made in reliance on the information you provided.
- c. The Corps may reevaluate its decision on this approval at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to the following:
 - 1. You fail to comply with the terms and conditions of this approval.
 - 2. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate. Should field conditions or future investigations require a deviation from the Final Plans and Specifications, this deviation must be approved by this office through a request from the Board.
 - 3. Significant new information surfaces which this office did not consider in reaching the original public interest decision.
- d. This approval should not be construed as an endorsement of certification for the FEMA base flood event.
- e. The Corps acknowledges your commitment to accept the altered project for operation and maintenance and hold and save the United States free from damage due to the construction works.

My point of contact for this action is Ms. Meegan Nagy, Chief, Flood Protection and Navigation Section. She may be reached at 916-557-7257 or by emailing Meegan.G.Nagy@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas C. Chapman', with a long horizontal flourish extending to the right.

Thomas C. Chapman
Colonel, U.S. Army
District Engineer

Enclosures

Encl 1 408 Approval Letter

Encl 2 Biological Opinion

Encl 3 NMFS Letter

CF: Stein Buer, Executive Director, Sacramento Area Flood Control Agency, 1007 7th street, 7th Floor, Sacramento, California, 95814

APPLICATION FOR A RECLAMATION BOARD ENCROACHMENT PERMIT

Application No. 18159-2
(For Office Use Only)

1. Description of proposed work:

The project is known as the Natomas Cross Canal (NCC) South Levee Phase 2 Improvement Project, Reaches 1 through 7. The NCC South Levee Improvements include: raising approximately 5.3 miles of the levee to provide additional freeboard; realigning the levee to provide a more stable waterside slope and to reduce the need for removal of waterside vegetation; and constructing a seepage cutoff wall in the eastern approximately 4.3 miles of the levee to reduce the risk of levee failure due to seepage and stability concerns. See Attachment A for additional discussion.

2. Location: Sutter County, in Section See Attachment A
Township: See Attachment A (N) (S), Range See Attachment A (W), M. D. B. & M.

3. Sacramento Area Flood Control Agency of 1007 7th Street, 7th Floor
Name of Applicant Address
Sacramento CA 95814 (916) 874-7606
City State Zip Code Telephone Number
(916) 874-8289
Fax Number

4. Endorsement: (of Reclamation District)

We, the Trustees of Reclamation District 1000
Name and District Number

approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form☒ Conditions Attached☐ No Conditions

Paul A. [Signature]
Trustee
Not required by Resolution
of the Board of Trustees
September 14, 1984

1-28-09
Date

Trustee

Date

5. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

See Section III of the Application Package

Name

Address

Zip Code

6. Has an environmental determination been made of the proposed work under the California Environmental Quality Act of 1970? ☒ Yes ☐ No ☐ Pending

If yes or pending, give the name and address of the lead agency and State Clearinghouse Number:

SAFCA is the lead agency.

See Attachment A for additional discussion.

SCH No. 2006072098 & 2007062016

7. When is the project scheduled for construction? April 2008 through November 2009

8. Please check exhibits accompanying this application.

- A. ☒ Map showing the location of the proposed work.
- B. ☒ Drawings showing plan and elevation views of the proposed work, scale, materials of construction, etc.
- C. ☒ Drawings showing the cross section dimensions and elevations of levees, berms, stream banks, flood plain, low flow, etc.
- D. ☒ Drawings showing the profile elevations of levees, berms, flood plain, low flow, etc.
- E. ☒ Photograph depicting the project site.

9. Is the applicant acting for the owner of the proposed works? ☒ Yes ☐ No

If yes, the name, address and telephone number of the owner is

The Reclamation Board and Reclamation District 1000

Signature of Applicant

Date

For additional information:

John A. Bassett
SAFCA
1007 7th Street, 7th Floor
Sacramento, CA 95814
tel (916) 874-8731
fax (916) 874-8289
bassettj@saccounty.net

Jonathan Kors, P.E.
Wood Rodgers, Inc.
3301 C Street, Bldg 100-B
Sacramento, CA 95816
tel (916) 326-5294
fax (916) 341-7767
jkors@woodrodgers.com



RD1000

RECLAMATION
DISTRICT 1000

Permit Conditions

Permit Application No. 18159-2 (2009 Update)

Location: Natomas Cross Canal (South Levee) Reaches 1 through 7

Applicant: Sacramento Area Flood Control Agency

Description: Levee Raise, Construct Landside Berm, Installation of Cutoff Wall

CONDITIONS:

1. Maintenance of all encroaching structures, facilities, vegetation or any other items or matters approved under this permit shall remain the responsibility of the Permittee unless otherwise agreed to by the District.
2. Permittee shall obtain all necessary permits and regulatory approvals for the proposed work.
3. Permittee shall coordinate with the District in the preparation of the project plans and specifications and with any modifications thereto. District shall review and approve final plans and specifications prior to advertising for bids and shall also review and approve all proposed modifications to the approved project plans and specifications prior to construction.
4. Work on the levee or within the Natomas Cross Canal shall be done outside of the flood season (November 1 to April 15) unless otherwise approved by the Reclamation Board and the District.
5. Permittee shall acquire necessary right of way for the improvements and convey said rights to the District for operation and maintenance to the satisfaction of the District.
6. Permittee shall restore the levee, access roads, gates, fences and other associated flood control facilities to the satisfaction of the District upon completion of the work.
7. Permittee shall restore levee and access to the satisfaction of the District prior to flood season unless otherwise approved by the District
8. In event of an emergency, Permittee shall immediately restore the levee and access to the satisfaction of the District.

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18159-3 BD

This Permit is issued to:

Sacramento Area Flood Control Agency
1007 7th Street, 7th Floor
Sacramento, California 95814

To construct approximately 11,000-linear-feet of seepage cutoff wall, 20 to 63-feet in depth, construct approximately 8,200-linear-feet of seepage berm varying in width from 100 to 300-feet-wide, construct a 18,800-linear-foot seback levee, 3-foot-higher than existing levee, on the landside slope of the existing left (east) bank levee of the Sacramento River. The project is located in Sacramento, between the Natomas Cross Canal and Pritchard Lake Road on the Garden Highway (Section 1,12,13, T10N, R3E, MDB&M, Reclamation District 1000, Sacramento River, Sacramento/Sutter County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and the Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of the Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 day's notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by the Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of the Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18159-3 BD

THIRTEEN: All addendums or other changes made to the submitted documents by the permittee after issuance of this permit are subject to submittal and review for approval by the Central Valley Flood Protection Board prior to incorporation into the permitted project. Upon review and approval of any new submitted documents the permit shall be revised, if needed, prior to construction related to the proposed changes. The Central Valley Flood Protection Board shall have up to 90 days after receipt of any documents, plans, drawings, and specifications for the review process. The Central Valley Flood Protection Board and/or the Department of Water Resources may extend this review period by written notification.

FOURTEEN: The mitigation measures approved by the permittee and found in its Mitigation and Monitoring Reporting Plan (MMRP) are made a condition of this permit. The permittee shall implement all such mitigation measures. However, the measures in the MMRP may be modified to accommodate changed circumstances or new information not triggering the need for subsequent or supplemental analysis under CEQA Guidelines sections 15062 or 15063 with advance notice of the proposed changes and submittal of supporting documentation for review and comment to the Staff Environmental Scientist of the Central Valley Flood Protection Board.

FIFTEEN: The permittee shall comply with all conditions set forth in the letter from the Department of the Army dated February 29, 2008, which is attached to this permit as Exhibit 1 and is incorporated by reference.

SIXTEEN: The permittee shall comply with all conditions set forth in the Record of Decision 408

Permission & Department of the Army 404 Permit to Sacramento Area Flood Control Agency for the Natomas Levee Improvement Program dated January 21, 2009, which is attached to this permit as Exhibit 2 and is incorporated by reference.

SEVENTEEN: The permittee shall comply with all conditions set forth in the Letter of Permission from the Department of the Army dated February 20, 2009, which is attached to this permit as Exhibit 3 and is incorporated by reference.

EIGHTEEN: The permittee shall comply with all conditions set forth in the conditions page from Reclamation District No. 1000 dated January 29, 2009, which is attached to this permit as Exhibit 4 and is incorporated by reference.

NINETEEN: Within three years from completion of the construction of the work authorized under this permit, the permittee shall provide the Sacramento and San Joaquin Drainage District, acting by and through the Central Valley Flood Protection Board of the State of California, a permanent easement granting all flood control rights upon, over and across the property to be occupied by the existing or to-be-reconstructed levee, including the area of the levee raise and realignment fill areas. The easement must include the area within the floodway, the levee section, and the area fifty (50) feet in width adjacent to the existing and new landward levee toes if the area is not presently encumbered by a Central Valley Flood Protection Board easement. For information regarding existing Central Valley Flood Protection easements and required easements, please contact Linus Paulus at (916) 653-3947.

TWENTY: All work approved by this permit shall be in accordance with the final (100%) submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

TWENTY-ONE: Prior to commencement of excavation, the permittee shall create a photo record, including associated descriptions, of the levee conditions. The photo record shall be certified (signed and stamped) by a licensed land surveyor or professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 30 days of beginning the project.

TWENTY-TWO: Upon completion of the project, the permittee shall perform a levee crown profile survey and create a photo record, including associated descriptions, of "as-built" levee conditions. The levee crown profile survey and photo record shall be certified (signed and stamped) by a licensed land surveyor or a professional engineer registered in the State of California and submitted to the Central Valley Flood Protection Board within 120 days of project completion.

TWENTY-THREE: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources, Reclamation District No. 1000 or any other agency responsible for maintenance.

TWENTY-FOUR: The permittee shall contact the Department of Water Resources by telephone, (916) 574-1213, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-FIVE: Prior to starting construction under this permit, the permittee shall contact the Department of Water Resources regarding inspection of the project during construction.

TWENTY-SIX: The permittee shall provide supervision and inspection services acceptable to the Central Valley Flood Protection Board.

TWENTY-SEVEN: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board a certification report, stamped and signed by a professional civil engineer registered in the State of California, certifying the work was inspected and performed in accordance with the Central Valley Flood Protection Board permit conditions and submitted drawings and specifications.

TWENTY-EIGHT: If FEMA certification of the levee by the U. S. Army Corps of Engineers is being considered, the project proponent should contact the U. S. Army Corps of Engineers regarding inspection of the project during construction for FEMA certification purposes.

TWENTY-NINE: The permittee shall contact the U. S. Army Corps of Engineers regarding inspection of the project during construction as the proposed work is an alteration to the existing Federal Flood Control Project that will be incorporated into the Sacramento River Flood Control Project, an adopted plan of flood control.

THIRTY: The Central Valley Flood Protection Board, Department of Water Resources and Reclamation District No. 1000 shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

THIRTY-ONE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

THIRTY-TWO: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

THIRTY-THREE: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

THIRTY-FOUR: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith. This permit is not valid until the Sacramento Area Flood Control Agency provides written assurances satisfactory to the Central Valley Flood Protection Board that the Sacramento Area Flood Control Agency will defend, indemnify and hold the board and State of California, including its agencies, departments, boards, and commissions, and their respective officers, agents, employees, successors and assigns,

safe and harmless, of and from all claims and damages arising out of the project undertaken pursuant to this permit, and to discharge this obligation to the extent allowed by law.

THIRTY-FIVE: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

THIRTY-SIX: Within 120 days of completion of the project, the permittee shall submit to the Central Valley Flood Protection Board proposed revision to the Corps of Engineers, Supplement to Standard Operation and Maintenance Manual, Sacramento River Flood Control Project, Unit 124 and the associated "as-built" drawings for system alterations approved by Exhibit 1 that are to be incorporated into the federal Sacramento River Flood Control Project.

THIRTY-SEVEN: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

THIRTY-EIGHT: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

THIRTY-NINE: No material stockpiles, temporary buildings, or equipment shall remain in the floodway during the flood season from November 1 to April 15.

FORTY: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

FORTY-ONE: The permittee shall cooperate with the Board to ensure that any encroachment that must be relocated, modified or otherwise altered to accommodate construction of the improvements permitted herein is relocated, modified or otherwise altered in a manner that complies with current applicable state and federal standards. If the affected encroachment has an existing Board permit or is subject to some other applicable Board authorization, the permittee shall cooperate with the Board to ensure the permit or other authorization is appropriately amended to reflect the changed condition as shown on as-built drawings for the encroachment and the overall project. If the encroachment does not have a Board permit or other Board authorization, the permittee shall cooperate with the Board to determine whether a Board permit is required. If so, permittee shall cooperate with the Board to ensure that required permit application is made and, if granted, the permit reflects the changed condition as shown on as-built drawings for the encroachment and the overall project.

FORTY-TWO: During construction of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the attention of the Flood Project Inspector immediately and prior to continuation. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Flood Project Integrity and Inspection Branch Inspector.

FORTY-THREE: The stability of the levee shall be maintained at all times during construction.

FORTY-FOUR: Excavations below the design flood plane and within the levee section or within 10 feet of the projected waterward and landward levee slopes shall have side slopes no steeper than 1 horizontal to 1 vertical. Flatter slopes may be required to ensure stability of the excavation.

FORTY-FIVE: A profile of the levee crown roadway and access ramp that will be utilized for access to and from the borrow areas shall be submitted to the Central Valley Flood Protection Board prior to commencement of excavation.

FORTY-SIX: The haul ramps and utilized levee crown roadway shall be maintained in a manner prescribed by the authorized representative of the Department of Water Resources, Reclamation District No. 1000 or any other agency responsible for maintenance.

FORTY-SEVEN: Any damage to the levee crown roadway or access ramps that will be utilized for access for this project shall be promptly repaired to the condition that existed prior to this project.

FORTY-EIGHT: The permittee shall be responsible for all damages due to settlement, consolidation, or heave from any construction-induced activities.

FORTY-NINE: All fencing, gates and signs removed during construction of this project shall be replaced in kind and at the original locations. If it is necessary to relocate any fence, gate or sign, the permittee is required to obtain written approval from the Central Valley Flood Protection Board prior to installation at a new location if not shown on the submitted drawings.

FIFTY: All temporary fencing, gates and signs shall be removed upon completion of project.

FIFTY-ONE: Any pipe or conduit being reinstalled in the levee section and within fifty (50) feet of both the waterward and landward levee toes shall meet Title 23 standards.

FIFTY-TWO: Fill on the levee slopes shall be keyed into the existing levee section with each lift.

FIFTY-THREE: Backfill material for excavations within the levee section and within fifty (50) feet of the levee toes shall be placed in 4- to 6-inch layers, moisture conditioned above optimum moisture content, and compacted to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

FIFTY-FOUR: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the levee section and within fifty (50) feet of the levee toes.

FIFTY-FIVE: Earthen material meeting the requirements of Condition Fifty-Eight shall be used when constructing or reconstructing the waterside levee slope, levee crown and landside fill areas, and no cuts shall remain in the levee section upon completion.

FIFTY-SIX: The slopes of the proposed levee shall be no steeper than 3 horizontal to 1 vertical on the water side and 2 horizontal to 1 vertical on the land side.

FIFTY-SEVEN: Fill material shall be placed only within the area indicated on the approved plans.

FIFTY-EIGHT: All fill material shall be imported impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material.

FIFTY-NINE: The fill surface area shall be graded to direct drainage away from the toe of the levee.

SIXTY: Where appropriate the new and reconstructed levee crown roadway and access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

SIXTY-ONE: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

SIXTY-TWO: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

SIXTY-THREE: Revetment shall be quarry stone and shall meet the following grading:

Quarry Stone

Stone Size	Percent Passing
15 inches;	100
8 inches;	80-95
6 inches;	45-80
4 inches;	15-45
2 inches;	0-15

SIXTY-FOUR: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

SIXTY-FIVE: The project site including the levee section and access ramps shall be restored to at least the condition that existed prior to commencement of work.

SIXTY-SIX: All debris generated by this project shall be disposed of outside the floodway and off the levee section.

SIXTY-SEVEN: The permittee shall replant or reseed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

SIXTY-EIGHT: In the event existing revetment on the channel bank or levee slope is disturbed or displaced, it shall be restored to its original condition upon completion of the proposed installation.

SIXTY-NINE: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

SEVENTY: Debris that may accumulate on the permitted encroachment(s) and related facilities shall be cleared off and disposed of outside the floodway after each period of high water.

SEVENTY-ONE: Any additional encroachment(s) in the floodway, on or in the levee section and within fifty (50) feet of the landward levee toe require an approved permit from the Central Valley Flood Protection Board.

SEVENTY-TWO: By acceptance of this permit, the permittee (Sacramento Area Flood Control Agency) acknowledges the authority of the Central Valley Flood Protection Board to regulate all future encroachments along this levee reach including those that may encroach upon alterations approved by this permit prior to incorporation into the federal Sacramento River Flood Control Project by the Corps of Engineers.

SEVENTY-THREE: If the permittee or successor does not comply with the conditions of the permit and an enforcement by the Central Valley Flood Protection Board is required, the permittee or successor shall be responsible for bearing all costs associated with the enforcement action, including reasonable attorney's fees.

SEVENTY-FOUR: The permittee acknowledges that some portions of the levee may be overbuilt to account for settlement and that upon adoption of the updated Central Valley Flood Protection Plan the permittee shall perform a levee crown profile survey of all levee crown covered by this permit and said profile shall be compared to the levee crown profile adopted in the updated Central Valley Flood Protection Plan. The permittee shall ensure that the levee crown does not exceed the updated Central Valley Flood Protection Plan profile.

SEVENTY-FIVE: According to permittee, the improvements herein permitted will control flows from a storm with a probability of occurrence of .005 in any year (200-year protection). Permittee's design assumed existing levees upstream of Natomas will not be raised above the current design for the Sacramento River Flood Control Project as shown on the 1957 profile. Permittee's design flow therefore reflects upstream flood water losses from levee overtopping where the water surface elevation for the permittee's design storm exceeds the top of levee elevation shown on the 1957 profile. Permittee acknowledges that a Central Valley Flood Protection Plan will be developed, adopted, and regularly updated by the State and the plan and subsequent updates could include improvements that would change the flow and water level associated with permittee's design storm, possibly reducing the level of protection provided by the permitted improvements. Permittee agrees to participate in future modifications to the Natomas levees as may be required by the Central Valley Flood Protection Plan and its subsequent updates. Permittee's level of participation shall be equivalent to the level required of other local jurisdictions by the Plan. Permittee further agrees that should the Plan include measures that reduce the level of protection provided by the permitted improvements, permittee shall have no basis for a claim of hydraulic impacts.

APPLICATION FOR A RECLAMATION BOARD ENCROACHMENT PERMIT

Application No. 18159-3
(For Office Use Only)

1. Description of proposed work:

The project is known as the Sacramento River East Levee Phase 1 Improvement Project, Reaches 1 Through 4B. The project involves constructing a raised and strengthened levee placed adjacent to the landside of the existing levee in the northern four miles of the Natomas Basin. See Attachment A for additional discussion.

See Section III, Project Description for additional discussion.

2. Location: Sutter and Sacramento County, in Section See Attachment A

Township: See Attachment A (N) (S), Range See Attachment A (W), M. D. B. & M.

3. Sacramento Area Flood Control Agency of 1007 7th Street, 7th Floor
Name of Applicant Address

Sacramento
City

CA
State

95814
Zip Code

(916) 874-7606
Telephone Number

(916) 874-8289
Fax Number

4. Endorsement: (of Reclamation District)

We, the Trustees of Reclamation District 1000
Name and District Number

approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form

☒ Conditions Attached

☒ No Conditions

Paul A. [Signature]
Trustee

1/29/2007
Date

Trustee

Date

Not required by Resolution
of the Board of Trustees
September 14, 1984

5. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

See Section III of the Application Package

Name

Address

Zip Code

6. Has an environmental determination been made of the proposed work under the California Environmental Quality Act of 1970? ☒ Yes ☐ No ☒ Pending

If yes or pending, give the name and address of the lead agency and State Clearinghouse Number:

SAFCA is the lead agency.

See Attachment A for additional discussion.

SCH No. 2006072098 & 2007062016

7. When is the project scheduled for construction? April 2008 to November 2009

8. Please check exhibits accompanying this application.

- A. ☒ Map showing the location of the proposed work.
- B. ☒ Drawings showing plan and elevation views of the proposed work, scale, materials of construction, etc.
- C. ☒ Drawings showing the cross section dimensions and elevations of levees, berms, stream banks, flood plain, low flow, etc.
- D. ☒ Drawings showing the profile elevations of levees, berms, flood plain, low flow, etc.
- E. ☒ Photograph depicting the project site.

9. Is the applicant acting for the owner of the proposed works? ☒ Yes ☐ No

If yes, the name, address and telephone number of the owner is

The Reclamation Board and Reclamation District 1000

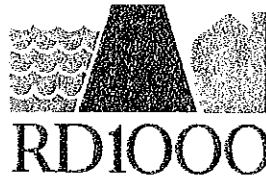
Signature of Applicant

Date

For additional information:

John A. Bassett
SAFCA
1007 7th Street, 7th Floor
Sacramento, CA 95814
tel (916) 874-8731
fax (916) 874-8289
bassettj@saccounty.net

Christopher Krivanec, P.E.
HDR, Inc.
2365 Iron Point Road, Suite 300
Folsom, CA 95630
tel (916) 817-4842
fax (916) 817-4747
christopher.krivanec@hdrinc.com



RECLAMATION
DISTRICT 1000

Permit Conditions

Permit Application No. 18159-3 2009 Update

Location: Sacramento River (East Levee) Reach 1 to 4B (Natomas Cross Canal to approx RM 74.8)

Applicant: Sacramento Area Flood Control Agency

Description: Construct Adjacent Raised Levee, Construct Landside Berm, Construct Slurry Wall

CONDITIONS:

1. Maintenance of all encroaching structures, facilities, vegetation or any other items or matters approved under this permit shall remain the responsibility of the Permittee unless otherwise agreed to by the District.
2. Permittee shall obtain all necessary permits and regulatory approvals for the proposed work.
3. Permittee shall coordinate with the District in the preparation of the project plans and specifications and with any modifications thereto. District shall review and approve final plans and specifications prior to advertising for bids and shall also review and approve all proposed modifications to the approved project plans and specifications prior to construction.
4. Work on the levee or within the Sacramento River shall be done outside of the flood season (November 1 to April 15) unless otherwise approved by the Central Valley Flood Protection Board and the District.
5. Permittee shall acquire necessary right of way for the improvements and convey said rights to the District for operation and maintenance to the satisfaction of the District.
6. Permittee shall restore the levee, access roads, gates, fences and other associated flood control facilities to the satisfaction of the District upon completion of the work.
7. Permittee shall restore levee and access to the satisfaction of the District prior to flood season unless otherwise approved by the District
8. In event of an emergency, Permittee shall immediately restore the levee and access to the satisfaction of the District.

General Information									SREL-1 60% Deisgn Submittal				Current Design of SREL-1 and SREL-1B				Summary of Differences between 60% Sumbittal and Current Level of Information
NLIP Permitting Phase	Design Package	Current Level of Information	SREL Reach	Beginning of Reach	End of Reach	Beginning Station	End Station	Distance (ft)	Design Landside Slope (H:V)	Cutoff Wall Tip Elevation (NAVD 88)	Seepage Berm Width (ft)	Relief Well Spacing (ft)	Design Landside Slope (H:V)	Cutoff Wall Tip Elevation (NAVD 88)	Seepage Berm Width (ft)	Relief Well Spacing (ft)	
2	SREL-1	Final Bid Package	1	0+00	48+00	0+00	2+00	200	5:1	-	-	-	3:1	-	-	-	Changed adjacent levee slope to 3H:1V.
						2+00	26+00	2,400	5:1	-	-	-	3:1	7	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation 7 (NAVD 88).
						26+00	46+00	2,000	5:1	-	-	-	3:1	12	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation 12 (NAVD 88).
						46+00	48+00	200	5:1	-	-	-	3:1	-27	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -27 (NAVD 88).
			2	48+00	100+00	48+00	58+00	1,000	5:1	-	100	-	3:1	-27	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -27 (NAVD 88). Removed 100-foot seepage berm.
						58+00	86+00	2,800	5:1	-	300	-	3:1	-27	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -27 (NAVD 88). Removed 300-foot seepage berm.
						86+00	98+00	1,200	5:1	-	100	-	3:1	-27	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -27 (NAVD 88). Removed 100-foot seepage berm.
						98+00	100+00	200	5:1	-	100	-	3:1	-15	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -15 (NAVD 88). Removed 100-foot seepage berm.
			3	100+00	110+00	100+00	105+00	500	5:1	-	100	-	3:1	-15	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -15 (NAVD 88). Removed 100-foot seepage berm.
						105+00	109+00	400	5:1	-	100	-	3:1	10	-	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation 10 (NAVD 88). Removed 100-foot seepage berm.
						109+00	110+00	100	5:1	-	100	-	3:1	10	100	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation 10 (NAVD 88).
			4A	110+00	190+00	110+00	142+00	3,200	5:1	-	100	-	3:1	10	100	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation 10 (NAVD 88).
						142+00	187+00	4,500	5:1	-	100	-	3:1	-5	100	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -5 (NAVD 88).
						187+00	188+00	100	5:1	-	100	-	3:1	-5	300	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -5 (NAVD 88). Extended seepage berm to 300 feet wide.
						188+00	190+00	200	5:1	-	100	-	3:1	-25	300	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -25 (NAVD 88). Extended seepage berm to 300 feet wide.
	SREL-1B	90% Design	4B	190+00	228+00	190+00	201+50	1,150	5:1	-	300	100	3:1	-25	300	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -25 (NAVD 88). Removed relief wells.
						201+50	214+00	1,250	5:1	-	300	100	3:1	18	300	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -18 (NAVD 88). Removed relief wells.
						214+00	224+00	1,000	5:1	-	300	100	3:1	18	500	-	Changed adjacent levee slope to 3H:1V. Added cutoff wall to Elevation -18 (NAVD 88). Extended seepage berm to 500 feet wide. Removed relief wells.
						224+00	227+20	320	5:1	-	300	100	3:1	18	300	-	Changed adjacent levee slope to 3H:1V.Added cutoff wall to Elevation -18 (NAVD 88). Removed relief wells.

Notes:
SREL-1 60% design used for CVFPB permit application was submitted on November 21, 2007.
SREL-1 design package includes Reaches 1 through 4A and was submitted on February 9, 2009
SREL-1B 90% design package includes Reach 4B and was submitted for internal HDR review on March 2, 2009.
Baseline shifted from landside hinge point to centerline of Garden Highway after 60 % submittal. Stations for the 60% design features shown above have been approximated to match new baseline.

RESOLUTION 09-022

Adopted by the Sacramento Area Flood Control Agency

CERTIFICATION OF THE SUPPLEMENT TO THE ENVIRONMENTAL IMPACT REPORT ON THE NATOMAS LEVEE IMPROVEMENT PROGRAM LANDSIDE IMPROVEMENTS PROJECT – PHASE 2 PROJECT; ADOPTION OF FINDINGS AND A STATEMENT OF OVERRIDING CONSIDERATIONS, MITIGATION MEASURES, AND A MITIGATION MONITORING AND REPORTING PROGRAM; AND APPROVAL OF MODIFICATIONS TO THE NATOMAS LEVEE IMPROVEMENT PROGRAM LANDSIDE IMPROVEMENTS PROJECT - PHASE 2 PROJECT

WHEREAS, Section 20 (c) of the SAFCA Act {Stats.1990, c. 510 (S.B.46), §1.}, finds and declares that a purpose of SAFCA is to coordinate a regional effort to finance, provide, and maintain facilities and works necessary to ensure a reasonable and prudent level of flood protection, as determined by the Agency, in developed and urbanizing areas which are designated for residential, commercial, or industrial uses within its boundaries and to provide local assurances and participate in cost sharing for Federal flood control projects; and

WHEREAS, Section 52 of the SAFCA Act states that SAFCA shall have as its highest priority the protection of life, property, watercourses, watersheds, and public highways within its boundaries from damage from flood and storm waters; and

WHEREAS, Section 52 of the SAFCA Act further mandates that SAFCA carry out its (flood control) responsibilities in ways which provide for the optimum protection of the natural environment, especially riparian habitat and natural stream channels suitable for native plant and wildlife habitat and public recreation; and

WHEREAS, the Natomas Levees Improvement Program Landside Improvements Project ("NLIP Landside Improvements Project") consists of improvements to the levee system in the Natomas Basin and related landscape modifications and drainage and infrastructure improvements to reduce the risk of flooding in a significant portion of the Sacramento metropolitan area, thereby implementing a portion of the flood control program known as Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area (State Clearinghouse No. 2006072098) ("Local Funding EIR"); and

WHEREAS, the NLIP Landside Improvements Project is fully described in Chapter 2 of the Environmental Impact Report on the NLIP Landside Improvements Project (State Clearinghouse No. 2007062016) ("2007 Landside EIR"), and consists of project elements originally proposed for commencement of construction in 2008 that are analyzed at a project level (formerly the "2008 Construction Projects," renamed the "Phase 2 Project"),

which consist of the "Natomas Cross Canal South Levee Phase 2 Improvement Project" and the "Sacramento River East Levee Phase 1 Improvement Project (Reaches 1 Through 4B)," and elements originally proposed for commencement of construction in 2009 through 2010 that are analyzed at a program level (formerly the "2009 Construction Project" and the "2010 Construction Project," renamed the "Phase 3 Project" and the "Phase 4 Project," respectively); and

WHEREAS, the 2007 Landside EIR is tiered from the Local Funding EIR; and

WHEREAS, the Phase 1 Project, originally referred to as the 2007 Construction Project, has been substantially completed; and

WHEREAS, the SAFCA Board of Directors certified the 2007 Landside EIR and approved the Phase 2 Project on November 29, 2007; and

WHEREAS, the Phase 2 Project would involve levee raising; seepage remediation; improvements to major irrigation and drainage infrastructure; habitat development and management; encroachment management and bridge crossing modifications; right-of-way acquisition within the area of the proposed features, at borrow sites, and to prevent encroachment and provide for maintenance access along the land side of the flood control facilities; and

WHEREAS, since certification of the 2007 Landside EIR in November 2007, SAFCA has proposed modifications to the Phase 2 Project, and has determined that a supplement to the 2007 Landside EIR that focuses on the significant effects on the environment that would potentially result from the proposed modifications to the Phase 2 Project is appropriate, and has prepared the Supplement to the Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project – Phase 2 Project (State Clearinghouse No. 2007062016) ("Phase 2 Project SEIR" or "SEIR"); and

WHEREAS, the proposed modifications to the Phase 2 Project, which are fully described in Chapter 2 of the November 2008 Draft SEIR, as amended by the January 2009 Final Supplement to the Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project – Phase 2 Project (together, the "Final SEIR") consist of the following: between Reaches 1 and 4A along the Sacramento River east levee, construction of cutoff walls in place of seepage berms in several areas and construction of cutoff walls in addition to seepage berms in others; cutoff wall construction on a 24-hour-per day/seven-day-per week basis in some areas; a change in the baseline condition of the Sacramento International Airport north bufferlands from active rice cultivation to idle conditions; additional details regarding new storm drainage collection facilities to convey surface water beneath Garden Highway to the Sacramento River; and the

addition of 90 acres of high quality foraging habitat through acquisition and reclamation of land used for borrow material; and

WHEREAS, SAFCA desires the Phase 2 Project to provide at least 100-year flood protection as quickly as possible while laying the groundwork to achieve at least "200-year" flood protection over time; to use flood control projects in the vicinity of Sacramento International Airport to facilitate better management of Airport lands that reduce hazards to aviation safety; and to use flood control projects to enhance habitat values by increasing the extent and connectivity of the lands in Natomas being managed to provide habitat for giant garter snake, Swainson's hawk, and other special-status species; and

WHEREAS, the Draft SEIR describing the modifications in the Phase 2 Project has been circulated for public review, comments have been received and responses issued, and a Final SEIR has been prepared; and

WHEREAS, the Final SEIR has been presented to the Board and the Board has reviewed and considered the information contained in the Final EIR.

NOW, THEREFORE, BE IT RESOLVED BY THE SACRAMENTO AREA FLOOD CONTROL AGENCY BOARD OF DIRECTORS:

1. The Board hereby certifies that the Final SEIR for the Phase 2 Project has been completed in compliance with the California Environmental Quality Act, Public Resources Code Section 21000 *et seq.*, and reflects the independent judgment of SAFCA.
2. The Board hereby adopts the Findings and Statement of Overriding Considerations for the modifications to the Phase 2 Project, attached hereto as Exhibit A, including the Statement of Overriding Considerations set forth therein.
3. The Board hereby adopts and incorporates into the Phase 2 Project all of the mitigation measures within the responsibility and jurisdiction of SAFCA that are identified in the Findings.
4. The Board hereby adopts the revised Mitigation Monitoring and Reporting Program for the NLIP Landside Improvements Project, attached hereto as Exhibit B.
5. The Board hereby approves the modifications to the Phase 2 Project.

ON A MOTION BY Director _____, seconded by Director _____, the foregoing resolution was passed and adopted by the Board of Directors of

the Sacramento Area Flood Control Agency, this 29th day of January 2009,
by the following vote, to wit:

AYES: Directors:

NOES: Directors:

ABSTAIN: Directors:

ABSENT: Directors:

Chair of the Board of Directors of the
Sacramento Area Flood Control Agency

(SEAL)

ATTEST:

Clerk of the Board of Directors

EXHIBIT A

FINDINGS AND STATEMENT OF OVERRIDING CONSIDERATIONS FOR NATOMAS LEVEE IMPROVEMENT PROGRAM LANDSIDE IMPROVEMENTS PROJECT – MODIFICATIONS TO PHASE 2 PROJECT

I. ENVIRONMENTAL REVIEW PROCESS

The Final Environmental Impact Report on the Natomas Levee Improvement Program (“NLIP”) Landside Improvements Project (State Clearinghouse No. 2007062016) (“2007 Landside EIR”), prepared by the Sacramento Area Flood Control Agency (“SAFCA”), analyzes the landside components of the NLIP that were originally proposed for construction during the years 2008 through 2010 (“NLIP Landside Improvements”). These components consist of improvements to the levee system in the Natomas Basin and related landscape modifications and drainage and infrastructure improvements.

The 2007 Landside EIR is a combined program-level EIR pursuant to Section 15168 of the State CEQA Guidelines (14 CCR § 15000 et seq.) and a project-level EIR pursuant to Section 15161 of the CEQA Guidelines. The project elements originally proposed for construction in 2008 (now referred to as the “Phase 2 Project”) are analyzed at a project level, and consist of the “NCC South Levee Phase 2 Improvements” and the “Sacramento River East Levee Phase 1 Improvements (Reaches 1 through 4B).” The Board certified the 2007 Landside EIR and approved the Phase 2 Project on November 29, 2007.

The 2007 Landside EIR is tiered from the analysis in SAFCA’s Environmental Impact Report on Local Funding Mechanisms for Comprehensive Flood Control Improvements for the Sacramento Area (“Local Funding EIR”) (February 2007, State Clearinghouse No. 2006072098). Consistent with CEQA Guidelines Section 15152, the second-tier 2007 Landside EIR incorporates by reference general discussions from the Local Funding EIR as appropriate, and focuses on the significant effects on the environment that were not adequately addressed in that EIR.

As stated in the Local Funding EIR, the overall project objectives of SAFCA’s flood control improvement program, including the NLIP Landside Improvements, are: to complete the projects necessary to provide 100-year flood protection for developed areas in the major floodplains of the Sacramento metropolitan area (Sacramento) as quickly as possible; to provide urban-standard (“200-year”) flood protection for developed areas in Sacramento’s major floodplains over time; and to ensure that new development in the undeveloped areas of Sacramento’s major floodplains does not substantially increase the expected damage of an uncontrolled flood. The specific objectives of the NLIP Landside Improvements project are: to provide at least 100-year flood protection as quickly as possible while laying the groundwork to achieve at least “200-year” flood protection over time; to use flood control projects in the vicinity of Sacramento International Airport to

facilitate better management of Airport lands that reduce hazards to aviation safety; and to use flood control projects to enhance habitat values by increasing the extent and connectivity of the lands in Natomas being managed to provide habitat for giant garter snake, Swainson's hawk, and other special-status species.

Since the certification of the 2007 Landside EIR and approval of the Phase 2 Project, SAFCA proposed modifications to the Phase 2 Project consisting of following: between Reaches 1 and 4A along the Sacramento River east levee, construction of cutoff walls in place of seepage berms in several areas and construction of cutoff walls in addition to seepage berms in others; cutoff wall construction on a 24-hour-per day/seven-day-per week basis in some areas; a change in the baseline condition of the Sacramento International Airport north bufferlands from active rice cultivation to idle conditions; additional details regarding new storm drainage collection facilities to convey surface water beneath Garden Highway to the Sacramento River; and the addition of 90 acres of high quality foraging habitat through acquisition and reclamation of land used for borrow material.

The Supplement to the Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project – Phase 2 Project (State Clearinghouse No. 2007062016) (“SEIR”), prepared by SAFCA, analyzes the modifications to the Phase 2 Project, which are fully described in Chapter 2 of the November 2008 Draft SEIR, as amended by the January 2009 Final Supplement to the Environmental Impact Report on the Natomas Levee Improvement Program Landside Improvements Project – Phase 2 Project (together, the “Final SEIR”). A supplement to the 2007 Landside EIR is appropriate because the modifications to the Phase 2 Project will involve new or substantially more severe significant environmental effects, but only minor additions or changes are necessary to make the 2007 Landside EIR adequate to apply to the modified Project. (CEQA Guidelines §§ 15162 and 15163.)

On October 2, 2008, SAFCA issued a Notice of Preparation (“NOP”) indicating that a Supplement to the 2007 Landside EIR (“SEIR”) would be prepared for the modifications to the Phase 2 Project. The NOP was filed with the State Clearinghouse and circulated to governmental agencies and the public for 30 days for review and comment. Comment letters were received. The Draft EIR was published on November 18, 2008, for a 45-day public review period that ended on January 2, 2009. During that time, the Draft SEIR was reviewed by various governmental agencies, as well as by interested individuals and organizations. In addition, members of the public were invited by formal public notice to submit comments on the Draft EIR in testimony at a public hearing held for that purpose on December 11, 2008. Additional public comments were received at this hearing.

The Final SEIR includes, among other components, the Draft SEIR published in November 2008, as well as comments on the Draft EIR, responses to those comments, and revisions to the Draft EIR. The Final SEIR, published in January 2009, was presented to the Board, and the Board has reviewed the Final SEIR. The analysis and conclusions contained in the Final SEIR reflect the independent judgment of SAFCA.

Based on all of the information and evidence in the record, the Board hereby makes the following Findings with respect to the modifications to the modifications to Phase 2 of the NLIP Landside Improvements Project.

II. SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS AND DISPOSITION OF RELATED MITIGATION MEASURES

The Final SEIR identifies the following changes in the significant and unavoidable adverse impacts associated with the modifications to the Phase 2 Project, and it identifies related mitigation measures. It is hereby determined that these significant and unavoidable adverse impacts are acceptable for the reasons specified in Section V, below.

A. Impact 3.4-b. Potential Construction Impacts on Cultural Resource CA-SAC-485/H

This prehistoric resource consists of an extremely rich deposit that contains midden, features, debitage, faunal bone and bone tools, habitation structures, and numerous human interments. The site occurs just east of the Sacramento River east levee Reach 4B. This reach has an existing, serious risk of underseepage and levee failure. SAFCA proposes construction of a seepage berm that could abut the Sacramento River east levee and would cover this resource. The width of this berm has been expanded compared to the original design; therefore, the impact of placing the berm on CA-SAC-485/H was not analyzed in the 2007 Landside EIR. This impact would be significant. Implementation of Mitigation Measure 3.4-b, set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce the impact on CA-SAC-485/H caused by the modifications to the Phase 2 Project. Nonetheless, construction of a seepage berm may affect the site through operation of equipment and construction of a massive feature over the site. Therefore, this impact would be significant and unavoidable.

Mitigation Measure 3.4-b: Avoid Ground Disturbance near Known Archeological Site CA-Sac-485/H to the Extent Feasible and Prepare and Implement a Historic Properties Treatment Plan.

SAFCA shall implement the following measures required by the PA (Appendix C) to address potential significant impacts on CA-SAC-485/H associated with Phase 2 Project construction impacts:

- ▶ *Prior to start of construction, SAFCA shall prepare an HPTP as required under the PA (Stipulation V[A]).*
- ▶ *The HPTP shall address the effect of construction of a seepage berm on CA-SAC-485/H, including the effects of operating heavy equipment on the site during construction and of the placement of a seepage berm over the resource.*

- ▶ *To the extent possible, SAFCA shall minimize or avoid direct impacts on the site by carefully selecting equipment with consideration given to the pressure the construction equipment will place on the site and the capability of the assemblage to withstand these impacts. SAFCA shall also minimize the impact of the weight of the berm on the site through engineering and design to the maximum extent possible.*
- ▶ *The HPTP shall recommend an appropriate program of research and analysis for any portion of the assemblage removed from the site during test excavations. SAFCA shall then consult with USACE, the SHPO, and appropriate Native American individuals and entities regarding the recommendations of the HPTP.*
- ▶ *Upon concurrence from USACE and the SHPO, SAFCA shall implement the HPTP. The HPTP shall account for and incorporate the concerns of all consulting parties, to the extent possible, given project goals, as required under Section 106.*
- ▶ *During construction, SAFCA shall monitor construction at this location and within an appropriate radius. This monitoring shall be governed by a plan for monitoring and response to inadvertent discoveries that has been approved by USACE, as required in the PA (Stipulation V[B]).*

The construction of a wide seepage berm and preparation and execution of an HPTP shall minimize impacts on this resource by avoiding or reducing disturbance and conducting research on the excavated portions of the assemblage. The HPTP shall minimize these impacts to the maximum extent possible and disclose the projected magnitude of these impacts.

B. Impact 3.4-c. Damage to or Destruction of Other Identified Prehistoric Cultural Resources

Two prehistoric resources, NLIP-7 and NLIP-22, were identified within the project footprint after preparation of the 2007 Landside EIR. Construction of the seepage berm in Reaches 4A and 4B has the potential to affect these resources. This potential impact would be potentially significant. Implementation of Mitigation Measure 3.4-c, set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce the impact on prehistoric cultural resources caused by the modifications to the Phase 2 Project. Nonetheless, it may not be possible to avoid all impacts to the deposits at these resources. Therefore, this impact would be significant and unavoidable.

Mitigation Measure 3.4-c: Evaluate NLIP-7 and NLIP-22. If the Resources are Eligible, Avoid Disturbance to the Extent Feasible, and Prepare and Implement a Historic Properties Treatment Plan.

SAFCA shall implement the following measures prior to start of construction:

- ▶ *Complete an evaluation of NLIP-7 and NLIP-22 resources, and determine the effect of Phase 2 work on all eligible or listed resources in accordance with Stipulation IV(A) of the PA.*

- ▶ *Consult with USACE, the SHPO, and other consulting parties such as Native American individuals and organizations, to develop appropriate treatment or mitigation in an HPTP, as required by Stipulation V(A) of the PA, if the project would result in adverse effects on eligible resources.*
- ▶ *If the resources are deemed to be eligible, document the sites and avoid or reduce adverse effects by minimizing disturbance from construction of the berm. Where physical impacts cannot be avoided and such physical impacts could damage the data these sites may contain, further excavation shall be conducted in order to support documentation of the resource as required under Section 110(b) of the NHPA, or, in the alternative, data recovery excavations to retrieve those values and mortuary assemblages that contain significance for archaeology and Native American culture after consultation with and the agreement of the Native American MLD tribe.*
- ▶ *Monitor all construction in the vicinity of documented and eligible resources, as required under the pending construction monitoring and inadvertent discovery plan.*

Implementation of these management steps would lead to a determination as to the eligibility of these resources, and if eligible, minimize impacts on qualities that make these resources significant. While data recovery excavation is usually performed in instances where significant resources may be affected by a project, consultation under Section 106 may require alternate treatment, such as minimal investigation other than documentation. Minimization of any disturbance is an expressed desire of the Native American individuals and organizations that were consulted. To the extent possible, SAFCA shall minimize the impact of operating equipment over the resources and the impact caused by placement of a berm on these sites, through engineering and equipment selection.

C. Impact 3.4-d. Damage to or Destruction of Previously Undiscovered Cultural Resources

Previously unknown cultural resources could be present in areas that would be subject to construction disturbance and could be damaged or destroyed by project construction. This potential impact would be potentially significant. Implementation of Mitigation Measure 3.4-d (updating previously adopted Mitigation Measure 3.8-d from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce the impact on prehistoric cultural resources caused by the modifications to the Phase 2 Project. Because SAFCA does not control the final selection of inventory and treatment methods under Section 106, SAFCA can only suggest these methods to USACE and other consulting parties to the Section 106 process. Furthermore, because these methods will result in a sample data set rather than an exhaustive excavation of the entire footprint of ground disturbing work, the possibility remains that previously undiscovered cultural resources will be inadvertently damaged or destroyed during construction. Therefore, this impact would be significant and unavoidable.

Mitigation Measure 3.4-d: Conduct Additional Backhoe and Canine Forensic Investigations As Appropriate

To increase the data set for identifying buried sites under the existing levee, SAFCA shall recommend that the following additional mitigation measures be adopted by USACE during Section 106 consultation:

- ▶ *Additional inventory should be conducted at appropriate intervals along the Sacramento River east levee for the Phase 2 Project, using a backhoe excavator, to increase the sample of information at depths below six feet, which cannot be reached with conventional shovel test methods.*
- ▶ *Where this process or additional inventory efforts reveal other resources, SAFCA recommends the use of canine forensic investigations as a way of identifying interred human remains with minimal disturbance, and for further refinement of and understanding of the constituents of identified resources.*
- ▶ *If previously undiscovered resources are encountered during excavation of the inspection trench they will be treated in accordance with Mitigation Measure 3.4-c.*

D. Impact 3.4-e. Damage to or Destruction of Previously Undiscovered Interred Human Remains

Because SAFCA does not control the final selection of inventory and treatment methods under Section 106, SAFCA can only suggest these methods to USACE and other consulting parties to the Section 106 process. Furthermore, because these methods will result in a sample data set rather than an exhaustive excavation of the entire footprint of ground disturbing work, the possibility remains that previously undiscovered cultural resources will be inadvertently damaged or destroyed during construction. This impact would be significant. Implementation of previously Mitigation Measure 3.4-e (updating previously adopted Mitigation Measure 3.8-e from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce impact on previously undiscovered interred human remains caused by the modifications to the Phase 2 Project. Nonetheless, even though measures would be implemented to avoid human remains or, if found, to dispose of the remains with appropriate dignity, future disturbance to additional archaeological material at the site could still occur after the initial discovery and management of human remains. Therefore, this impact would be significant and unavoidable.

Mitigation Measure 3.4-e: Halt Work Within 50 Feet of the Find, Notify the County Coroner and Most Likely Descendant, and Implement Appropriate Treatment of Remains

SAFCA and its primary construction contractors shall ensure that the following measures are implemented to address the potential discovery of human remains during construction.

- ▶ *If human remains are uncovered during ground-disturbing activities, all ground-disturbing activities shall cease within a 50-foot radius of the find, and SAFCA or its designated representative shall be notified. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, SAFCA and/or the contractor shall notify the county coroner of the county in which the remains are uncovered (Sutter or Sacramento) and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The NAHC shall designate a Most Likely Descendant (MLD) to dispose of the remains with appropriate dignity.*
- ▶ *After a determination that the remains are of prehistoric Native American origin, SAFCA shall coordinate with the MLD for reburial of the remains and associated grave goods in an appropriate location. If the MLD fails to make a recommendation or reinter the remains, further treatment shall conform to PRC Section 5097 et seq. and other appropriate authorities.*
- ▶ *The discovery of prehistoric burials often reveals locations sensitive for the occurrence of additional archaeological material. Newly discovered prehistoric resources associated with human remains shall be evaluated, and if the resource is eligible for the CRHR or the NRHP and the project would result in adverse effects to those eligible resources, Mitigation Measure 3.4-c shall be implemented.*

E. Impact 3.5-a. Generation of Temporary, Short-Term Construction Noise

Construction of proposed cutoff walls on a 24-hours-per-day, 7-days-per-week (“24/7”) basis could generate noise levels that exceed the local noise standards for stationary sources at nearby sensitive receptors. In addition, because this construction would occur during the noise-sensitive evening and nighttime hours, it would have the potential to cause sleep disturbance at nearby residential land uses. This impact would be significant. Since publication of the Draft SEIR, the area in which cutoff walls would be constructed, in addition to other Phase 2 Project construction that would be taking place, was expanded to include the entirety of Reach 4A. Pursuant to the modifications to the Phase 2 Project, cutoff wall construction could be conducted 24/7; however, at the request of the USACE pursuant to the Phase 2 Project’s NEPA compliance, Mitigation

Measure 3.5-a was revised to state that 24/7 construction of cutoff walls would not be conducted in Reaches 1 and 4A due to the proximity of residences in those reaches. Implementation of Mitigation Measure 3.5-a (updating previously adopted Mitigation Measure 3.12-a from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce the noise impact from construction of the modifications to the Phase 2 Project. These measures would reduce interior and exterior noise levels at noise-sensitive receptors located near construction sites. However, standards applicable to local exterior noises would not be reduced to a less-than-significant level at every nearby receptor. Therefore, the impact of temporary, short-term construction noise on sensitive receptors would be significant and unavoidable.

Mitigation Measure 3.5-a: Implement Noise-Reducing Construction Practices, Prepare and Implement a Noise Control Plan, and Monitor and Record Construction Noise Near Sensitive Receptors.

SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented at each work site in any year of project construction to avoid and minimize construction noise effects on sensitive receptors. These measures are consistent with SAFCA's standard contract specifications for noise control.

SAFCA and its primary construction contractors shall employ noise-reducing construction practices and other measures to reduce exposure of sensitive receptors to construction noise. Measures that shall be used to reduce noise impacts shall include the following:

- ▶ *Equipment shall be used as far away as practical from noise-sensitive uses.*
- ▶ *All construction equipment shall be equipped with noise-reduction devices such as mufflers to minimize construction noise and all internal combustion engines shall be equipped with exhaust and intake silencers in accordance with manufacturers' specifications.*
- ▶ *Equipment that is quieter than standard equipment shall be used, including electrically powered equipment instead of internal combustion equipment where use of such equipment is a readily available substitute that accomplishes project tasks in the same manner as internal combustion equipment.*
- ▶ *Construction site and haul road speed limits shall be established and enforced.*
- ▶ *The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.*
- ▶ *Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators).*

- ▶ *Fixed construction equipment (e.g., compressors and generators), construction staging and stockpiling areas, and construction vehicle routes shall be located at the most distant point feasible from noise-sensitive receptors.*
- ▶ *When noise sensitive uses are within close proximity and subject to prolonged construction noise, where feasible noise-attenuating buffers such as structures, truck trailers, or soil piles shall be located between noise generation sources and sensitive receptors.*
- ▶ *Before construction activity begins within 500 feet of one or more residences, written notification shall be provided to the potentially affected residents, identifying the type, duration, and frequency of construction activities. Notification materials shall also identify a mechanism for residents to register complaints with the appropriate jurisdiction if construction noise levels are overly intrusive. The distance of 500 feet is based on the 60-dBA) contour of the loudest anticipated construction activity other than pile driving (as listed in Table 3.12-4 of the 2007 Landside EIR).*
- ▶ *When construction of cutoff walls takes place during nighttime hours (between 10 p.m. and 6 a.m.), SAFCA shall honor requests from affected residents to provide reasonable reimbursement of local hotel or short-term rental stays for the period of time that cutoff wall construction takes place within 500 feet of the residents requesting reimbursement.*
- ▶ *If noise-generating activities are conducted within 100 feet of noise-sensitive receptors (the 70-dBA noise contour of construction noise), the primary contractor shall continuously measure and record sound generated as a result of the proposed work activities. Sound monitoring equipment shall be calibrated before taking measurements and shall have a resolution within 2 dBA. Monitoring shall take place at each activity operation adjacent to sensitive receptors. The recorded noise monitoring results shall be furnished weekly to SAFCA.*
- ▶ *The primary contractor shall prepare a detailed noise control plan based on the construction methods proposed. This plan shall identify specific measures to ensure compliance with the noise control measures specified above. The noise control plan shall be submitted to and approved by SAFCA before any noise-generating construction activity begins.*
- ▶ *Construction of cutoff walls in Reaches 1 and 4A of the Sacramento River east levee shall be limited to the hours of 6 a.m. to 8 p.m., Monday through Saturday, with only maintenance activities on Sunday.*

III. SIGNIFICANT ADVERSE IMPACTS IDENTIFIED IN THE EIR THAT ARE REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL BY MITIGATION MEASURES INCORPORATED INTO THE PROPOSED PROJECT

The Final SEIR identifies the following significant impacts associated with the modifications to the Phase 2 Project. These impacts are reduced to a less-than-significant level by mitigation measures identified in the Final SEIR and incorporated into the project. It is hereby determined that the impacts addressed by these mitigation measures will be mitigated to a less-than-significant level or avoided by incorporation of these mitigation measures into the project. To the extent that these mitigation measures will not mitigate or avoid all significant effects on the environment, it is hereby determined that any remaining significant and unavoidable adverse impacts are acceptable for the reasons specified in Section VI, below.

A. Impact 3.2-a. Possible Effects on Water Quality from Stormwater Runoff from Garden Highway Drainage Outlets to the Sacramento River

Drainage outlets would convey surface water toward the Sacramento River through subsurface laterals and waterside drainage outfalls. Stormwater runoff from Garden Highway could degrade the water quality of the Sacramento River by discharging contaminants through two proposed drainage outlets. This potential impact would be significant. Implementation of Mitigation Measure 3.2-a, set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce the potential impact on water quality from stormwater runoff associated with drainage from Garden Highway caused by Phase 2 Project modifications to a less-than-significant level.

Mitigation Measure 3.2-a: Implement Standard Best Management Practices and Comply With NPDES Permit Conditions.

SAFCA and its engineering consultants shall implement a suite of stormwater quality best management practices (BMPs) designed to remove contaminants from water discharging through the Garden Highway outlets. These BMPs shall be based on the Stormwater Quality Design Manual for Sacramento and South Placer Regions (May 2007), meet “maximum extent practicable” and “best conventional technology/best available technology” requirements, and comply with NPDES permit conditions.

B. Impact 3.3-a. Loss of Sensitive Habitats

The proposed modifications to the Phase 2 Project include construction of new drainage outfalls in Reaches 1–4B of the Sacramento River east levee. Placement of these outfalls would result in fill of waters of the United States and potential removal of some riparian vegetation. This impact would be significant. Implementation of Mitigation Measure 3.3-a (updating previously adopted Mitigation Measure 3.7-a from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase

2 Project, would ensure that an overall performance standard of no net loss in acreage, function, and value of sensitive habitats is met, thereby reducing the impact on sensitive habitats caused by the Phase 2 Project modifications to a less-than-significant level.

Mitigation Measure 3.3-a: Minimize Effects on Sensitive Habitats; Develop and Implement a Habitat Management Plan to Ensure Compensation for Unavoidable Adverse Effects; Comply with Section 404, Section 401, and Section 1602 Permit Processes; and Implement all Permit Conditions.

SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on sensitive habitats.

Areas of sensitive habitat shall be identified and the primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of canals and ditches, seasonal wetlands, and woodland patches. Trees within the Sacramento County portion of the project area that qualify as Native Oaks or Heritage Trees under Sacramento County's tree preservation ordinance shall be identified. All sensitive habitats and protected trees that are located adjacent to construction areas, but can be avoided, shall be protected by temporary fencing during construction.

SAFCA shall develop and implement a Mitigation and Monitoring Plan (MMP) to address establishment and management of aquatic (i.e., GGS/Drainage Canal and marsh/seasonal wetland habitat) and woodland habitats that are created as part of the proposed project in order to ensure that the performance standard of no net loss of sensitive habitat is met. The shall identify the measures and performance criteria during the initial mitigation monitoring period (8 years) and shall be submitted to federal and state agencies for review and approval prior to project construction.

GGS/Sensitive Aquatic Habitats

Mitigation for impacts to aquatic habitat include the construction of a new GGS/Drainage canal, relocation of the Elkhorn Irrigation Canal, and preservation of rice fields. The GGS Canal shall create jurisdictional waters of the United States, and include banks that are designed to facilitate shoreline growth of freshwater marsh plants, plantings of native perennial grasses on the upper canal banks for better giant garter snake cover, and creation of giant garter snake hibernacula (rock piles keyed into the bank). This habitat shall be protected in perpetuity through an easement. In addition, to the extent practicable the Phase 2 Project Elkhorn Irrigation Canal shall be relocated in an alignment near the new GGS/Drainage Canal alignment to provide the potential for additional aquatic habitat (its main function would still be irrigation).

A monitoring program with performance criteria shall be developed to determine the progress of the GGS/Drainage canal towards achieving the performance standard of no net loss of aquatic habitat. The criteria for measuring performance shall be used to

determine if the habitat is trending toward sustainability (reduced human intervention) and to assess the need for adaptive management (e.g., changes in mitigation design or maintenance revisions). These criteria must be met in order for the mitigation site to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria, which shall be developed in consultation with DFG and USFWS, shall include, but are not limited to:

- ▶ *percent total cover (from 85–90%),*
- ▶ *percent relative cover by wetland species (from 85–90%),*
- ▶ *percent relative cover by native species (from 50–85%), and*
- ▶ *water level controlled to within +/- 6 inches of design water level.*

Vegetation assessments of the GGS/Drainage Canal shall be conducted annually for native perennial grasses (during the appropriate peak flowering period). The presence of giant garter snakes shall be monitored and recorded along this canal, consistent with monitoring methods currently conducted for SAFCA and TNBC elsewhere in the Natomas Basin.

All monitoring shall occur for the full monitoring period or until the performance criteria are met, whichever period is longer. Waterline plug plantings (sedges and rushes) may not be mowed once established. All areas seeded with perennial grasses shall be mowed to a height of between 6–12 inches above ground.

The primary function and service of the Elkhorn Canal is to deliver irrigation water to users throughout the Natomas Basin. The water supply within the Elkhorn Canal shall vary depending on the needs of those users. Therefore, the performance standard for the Elkhorn Canal is the delivery of irrigation water.

Woodlands

To mitigate impacts to woodland habitats, woodland corridors and groves shall be established. In addition, existing woodlands, located outside of the flood control and canal improvement footprints but within project acquisition areas adjacent to the new groves, shall be preserved. Generally, the size of the woodland mitigation areas shall vary somewhat depending on the characteristics of their unique locations. Trees under 10 inches diameter at breast height (dbh) located within the project footprint (mostly valley oaks), that can be feasibly relocated shall be transplanted into woodland mitigation areas. Elderberry shrubs located within the project footprint that can be feasibly relocated shall be transplanted into woodland mitigation areas. The botanical species composition of individual clusters and rows shall mimic vegetation types commonly found along the Sacramento River, including:

- ▶ *Valley oak woodland*
- ▶ *Mixed riparian forest, cottonwood-dominant*

- ▶ *Shallow scrub (at moist soil sites or depressions)*
- ▶ *Sycamore and oak savanna (with native perennial grassland)*
- ▶ *Elderberry shrub/scrub*

A monitoring plan with performance criteria shall be developed to determine the progress of the woodland habitats towards providing adequate mitigation. The criteria for measuring performance shall be used to determine if the mitigation is trending toward sustainability (reduced human intervention) and to assess the need for adaptive management (e.g., changes in mitigation design or maintenance revisions). These criteria must be met in order for the mitigation site to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria, which shall be developed in consultation with DFG and USFWS, shall include, but are not limited to:

- ▶ *Percent survival of planted trees (from 65–85%)*
- ▶ *Percent survival of transplanted trees (from 60–85%)*
- ▶ *Percent relative canopy cover (from 5–35%)*

Field assessments of woodland planting areas shall be conducted once per year. The timing of these assessments shall be adjusted according to annual site-specific conditions, but assessments shall generally occur in late summer. To measure percent survival of trees and shrubs, each plant shall be inspected and the species of each live plant shall be recorded. Qualitative assessments shall be recorded to track the health and vigor of each species for adaptive management of the mitigation sites.

To determine the success of the woodland plantings as a functioning ecosystem, percent canopy shall be estimated each fall by recording the extent of woodland habitat on aerial photographs, or using repeat transects or fixed radius plots at ground level. The timing of these assessments shall be adjusted according to annual site-specific conditions, but assessments shall generally occur in late summer or early fall while trees are still in full foliage. The results of these assessments shall also be used to determine where replanting should occur to maintain suitable Swainson's hawk habitat. All monitoring shall occur for the full monitoring period or until the performance criteria are met, whichever is longer.

A Long-Term Management Plan (LTMP) shall be implemented by SAFCA in connection with the NLIP Landside MMP. The LTMP shall establish the long-term management practices (post establishment period success criteria) and land protection mechanisms that shall be implemented as each phase of the NLIP is approved and permitted. Land ownership and management responsibilities shall be held by SAFCA, RD 1000, NCMWC, TNBC, and the SCAS.

Applicable permits, including a Section 404 permit from the USACE, Section 401 certification from the Central Valley Regional Water Quality Control Board (RWQCB),

and a Section 1602 streambed alteration agreement from DFG, shall be obtained before any impact on the relevant resources occurs. All permit terms and conditions adopted through these permitting processes shall be implemented.

C. Impact 3.3-b. Disturbance and Loss of Giant Garter Snake Habitat

Implementation of the Phase 2 Project with proposed modifications would result in disturbance and loss of aquatic and upland habitat for giant garter snake. The project would also result in creation of habitat for the snake, but specific requirements have not been established to ensure that appropriate habitat conditions are provided to adequately replace the habitat values that would be lost. Project construction also has the potential to result in direct take of giant garter snake individuals. This impact would be significant. Implementation of Mitigation Measure 3.3-b (previously adopted Mitigation Measure 3.7-d from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would ensure that an overall performance standard of no net loss in function and value of giant garter snake habitat is met, thereby reducing the impact on giant garter snake habitat caused by the Phase 2 Project modifications to a less-than-significant level.

Mitigation Measure 3.3-b: Minimize the Potential for Direct Loss of Giant Garter Snake Individuals, Develop a Management Plan in Consultation with USFWS and DFG, and Obtain Incidental Take Authorization.

SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on giant garter snakes.

The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of giant garter snake habitat. All aquatic and adjacent upland habitat that is located adjacent to construction areas, but can be avoided, shall be protected by temporary fencing during construction.

Additional measures consistent with the goals and objectives of the NBHCP shall be implemented to minimize the potential for direct injury or mortality of individual giant garter snakes during project construction. Such measures shall be finalized in consultation with DFG and USFWS, and are likely to include conducting worker awareness training, timing initial ground disturbance to correspond with the snake's active season (as feasible in combination with minimizing disturbance of nesting Swainson's hawks), dewatering aquatic habitat before fill operations are commenced, conducting preconstruction surveys, and conducting biological monitoring during construction.

SAFCA shall develop and implement an MMP to address management of aquatic (i.e., GGS/Drainage Canal and marsh/seasonal wetland habitat) and adjacent upland habitats that are created and rice fields that are preserved as part of the project in order to ensure that the performance standard of no net loss in function and value of giant

garter snake habitat is met. This plan shall be completed and submitted to state and federal agencies for review prior to project construction.

The management plan for the giant garter snake habitat creation and preservation components of the project shall be reviewed and approved by USFWS and DFG before project implementation. Authorization for take of giant garter snake under the ESA and CESA shall be obtained. Any additional avoidance, minimization, or compensation measures subsequently adopted through the permitting process shall be implemented prior to or during project construction, as appropriate. A Long-Term Management Plan (LTMP) shall be implemented by SAFCA in connection with the NLIP's MMP. The LTMP shall describe the management practices and land protection mechanisms that shall be implemented as each phase of the NLIP is approved and permitted. Land ownership, management responsibilities, and protection obligations shall be held by SAFCA, RD 1000, NCMWC, TNBC, and the SCAS.

D. Impact 3.3-c. Loss of Swainson's Hawk Habitat and Potential Disturbance of Nests

Implementation of the Phase 2 Project would result in loss of suitable foraging and potential nesting habitat. Creation of suitable foraging and nesting habitat would also occur, but specific requirements have not been established to ensure that appropriate habitat conditions are provided to adequately replace the habitat values that would be lost. Project construction could also result in disturbance and potential failure of active nests for Swainson's hawk. This impact would be significant. Implementation of Mitigation Measure 3.3-c (updating previously adopted Mitigation Measure 3.7-f from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would ensure that an overall performance criterion of no net loss in acreage, function, and value of Swainson's hawk foraging habitat is met, thereby reducing the impact on Swainson's hawk habitat and nests caused by the Phase 2 Project modifications to a less-than-significant level.

Mitigation Measure 3.7-f: Minimize Potential Impacts on Swainson's Hawk, Monitor Active Nests during Construction, Develop a Management Plan in Consultation with DFG, and Obtain Incidental Take Authorization.

SAFCA and its primary contractors for engineering design and construction shall ensure that the following measures are implemented to avoid, minimize, and compensate for potential project effects on Swainson's hawks.

The primary engineering and construction contractors shall ensure, through coordination with a qualified biologist retained by SAFCA, that staging areas and access routes are designed to minimize disturbance of known Swainson's hawk nesting territories. The biologist shall conduct preconstruction surveys to identify active nests within 0.25 mile of construction areas, in accordance with DFG guidelines. Surveys shall be conducted in accordance with NBHCP requirements and Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). If an active nest is found, an

appropriate buffer that minimizes the potential for disturbance of the nest shall be determined by the biologist, in coordination with DFG. No project activities shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active or the birds are not dependent on it. Monitoring shall be conducted by a qualified biologist to determine whether project activity results in detectable adverse effects on the nesting pair or their young. The size of the buffer may vary, depending on the nest location, nest stage, construction activity, and monitoring results. If implementation of the buffer becomes infeasible or construction activities result in an unanticipated nest disturbance, DFG shall be consulted to determine the appropriate course of action.

SAFCA shall develop and implement an MMP to address management of grassland habitats that are created as part of the proposed project in order to ensure that the performance standard of no net loss of sensitive habitat is met. To mitigate impacts on cropland and grassland suitable for Swainson's hawk foraging habitat, SAFCA shall create managed native perennial grassland habitats on the new levee slopes, seepage berms, access right-of-ways, and canal embankments. This grassland shall provide moderate-quality Swainson's hawk foraging habitat. In addition, grasslands on and adjacent to canal banks shall provide basking and aestivation habitat for giant garter snake.

The MMP shall include methods to create the grasslands, including native grass mixes which shall be seeded along new levee slopes and seepage berms, staging areas, and adjacent maintenance and utility rights-of-way. Seed material shall be purchased from a reputable nursery and must be from local genetic stock within 200 miles of the project site unless otherwise approved by a qualified ecologist. The native grass mix shall include the following:

- ▶ *Purple needlegrass (Nassella pulchra)*
- ▶ *Creeping wildrye (Leymus triticoides)*
- ▶ *Six weeks grass (Vulpia microstachys)*
- ▶ *Slender wheatgrass (Elymus trachycaulus)*
- ▶ *Meadow barley (Hordeum brachyantherum)*

An initial baseline assessment of grassland mitigation sites shall be conducted following the initial drill seeding program, and then a monitoring program with performance criteria shall be developed to determine the progress of the grassland habitats towards providing adequate mitigation. The criteria for measuring performance shall be used to determine how well the mitigation is being established and to assess the need for adaptive management (e.g., changes in mitigation design or maintenance revisions). These criteria must be met in order for the mitigation site to be declared successful, both during a particular monitoring year and at the end of the establishment period. These performance criteria, which shall be developed in consultation with USACE, DFG and USFWS, shall include, but are not limited to:

- ▶ *Percent cover of invasive species (<1%)*
- ▶ *Percent cover of non-native herbaceous plants (<10–25%)*
- ▶ *Percent absolute cover of native species (>50–80%)*

The management plan for the grassland habitat creation components of the project shall be provided to the USFWS and DFG for review before project implementation. Authorization for take of Swainson's hawk under CESA shall be obtained. Any additional avoidance, minimization or compensation measures subsequently adopted through the permitting process shall be implemented.

E. Impact 3.4-a. Changes to Elements of RD 1000, which Consists of a Rural Historic Landscape District That is Eligible for Listing on the NRHP

This district consists of the levees, drainage features, roads, and large-scale patterns of land use that form a distinct rural landscape surrounding and including the physical features of RD 1000 flood control infrastructure. Activities associated with several of the Phase 2 Project modifications, including construction of drainage infrastructure under Garden Highway and expansion of a seepage berm in Reach 4B of the Sacramento River east levee, could disturb contributing elements of RD 1000. These impacts would be significant. Implementation of Mitigation Measure 3.4-a (updating previously adopted Mitigation Measure 3.8-a from the 2007 Landside EIR), set forth below, which is hereby adopted and incorporated into the Phase 2 Project, would reduce this impact to a less-than-significant level.

Mitigation Measure 3.4-a: Incorporate Mitigation Measures to Documents Regarding Any Elements Contributing to RD 1000 and Distribute the Information to the Appropriate Repositories.

The management of the cultural resources that constitute the contributing elements of RD 1000 is governed by the PA (Appendix C). Because the elements of the RD 1000 historic landscape district have already been recorded, a new inventory of these resources is not required under Stipulation IV(A) of the PA. After an APE has been determined per Stipulation III(C), a qualified architectural historian shall determine if contributing elements of the district are present in the APE. If contributing elements are present, the architectural historian shall update records for these resources and evaluate those elements to determine if they still retain integrity. Because much of the Natomas Basin has been developed, it is possible that changes to the setting have diminished the integrity and thus eligibility of contributing elements in the APE. If the elements in the APE retain eligibility, the architectural historian shall make a finding of effect.

If there is an adverse effect to a contributing element (under Section 106) or a significant impact on the resource's integrity as an historical resource (under CEQA) the architectural historian shall review existing HAER documentation and determine whether any augmentation of this documentation is needed. The original documentation for the American River Watershed Project, completed in 1997, contemplated changes to

the setting of the district and thus provided comprehensive documentation to record the district before urbanization (Peak & Associates 1997). It is possible that this original documentation adequately recorded and preserved records of the elements that may be affected. If this documentation is not sufficient for adversely affected and contributing elements, SAFCA will prepare an HPTP stipulating additional HAER documentation, or other similar treatment as required under Stipulation V(A). After consultation with USACE and the SHPO, SAFCA shall implement the required documentation. Any additional documentation that is needed shall be prepared and distributed to appropriate public repositories.

IV. LESS-THAN-SIGNIFICANT IMPACTS

The Final SEIR identifies the following less-than-significant impacts. Mitigation to further reduce less-than-significant impacts is not required by CEQA.

A. Impact 3.2-b. Possible Effects on Groundwater

Installation of the proposed cutoff walls along the Sacramento River east levee would potentially increase or decrease localized near-surface groundwater levels in areas immediately east and west of the cutoff wall. A study of the potential for a significant drop or increase in groundwater levels found that no measurable change in groundwater levels or well yields would be expected from cutoff walls proposed for the Phase 2 Project. This impact would be less than significant.

B. Impact 3.2-c. Cumulative Effects on Groundwater

Implementation of all phases of the NLIP in combination with existing and projected land and water use changes in the Natomas Basin could adversely affect the groundwater budget for the Natomas Basin. Modeling found a negligible cumulative effect on both the groundwater budget for the Natomas Basin and on outflow to adjacent areas. The project modifications would not contribute considerably to a significant cumulative effect. This impact would be less than significant.

V. STATEMENT OF OVERRIDING CONSIDERATIONS

The Board has balanced the benefits of the NLIP Landside Improvements Phase 2 Project against its unavoidable environmental risks in determining whether to approve the project, and has determined that the benefits of the project outweigh the unavoidable adverse environmental effects. The reasons set forth below are based on the Final SEIR, the 2007 Landside EIR, and other information in the record.

A. Because of unique topographical and meteorological features, the Sacramento River basin, including its major tributaries, the Feather and American Rivers, is capable of producing significantly higher peak flood discharge per square mile of drainage area than any other major river basin in the United States.

B. The 1986 flood, the largest flood ever recorded for the Sacramento and American Rivers, triggered a major reevaluation of Sacramento's flood control system by the United States Army Corps of Engineers, which identified deficiencies in the flood control system protecting Sacramento. Although substantial flood protection effort has been undertaken since 1986, large portions of the Sacramento metropolitan area remain at high risk (having less than 100-year flood protection) or at moderate risk (having greater than 100-year but less than 200-year flood protection) of flooding.

C. There is an immediate need to protect the people and property at risk in the project area. The Natomas Basin floodplain is occupied by over 83,000 residents and \$10 billion in damageable property. This area is presently vulnerable to flooding in a less than 100-year flood event along the Sacramento River or American River. Uncontrolled flooding in the Natomas Basin floodplain in a flood exceeding a 100-year event could result in \$7 billion in damage. Depending on the circumstances, flood depths in the Natomas basin could reach life-threatening levels. Flooding would also result in releases of toxic and hazardous materials, groundwater contamination, and possible damage to the metropolitan power grid. The disruption in transportation that would result from a major flood would affect the Sacramento International Airport, and interstate and state highways. The day-to-day functioning of the state capital also would be significantly affected.

D. In recognition of the significant flood risk still remaining in the Sacramento area, Congress authorized the most significant package of improvements to Sacramento flood control system since the construction of Folsom Dam in 1956 as part of the Water Resource Development Act of 1996 and 1999, including the improvements to the NCC south levee, the Sacramento River east levee, and the American River north levee in the Natomas basin.

E. The project will help maximize public safety along the lower American and Sacramento Rivers and their tributaries in the Sacramento region. Specifically, the project will improve the levee system in the Natomas Basin and make related landscape modifications and drainage and infrastructure improvements.

F. The project would significantly reduce the risk of an uncontrolled flood in the Natomas Basin that would result in a catastrophic loss of property (estimated at \$7 billion) and a prolonged interruption of commercial activity, including the operation of Sacramento International Airport and closure of Interstate 5, State Route 99/70, and portions of Interstate 80.

G. By contributing to protection of existing housing stock from destruction due to flood damage, the project will contribute to the maintenance of affordable housing in the region.

H. Several of the significant and unavoidable impacts identified in the Final SEIR and the 2007 Landside EIR (including construction-related noise, traffic on local

roadways, emissions) are temporary in duration and will be limited to the construction period.

VI. INCORPORATION BY REFERENCE

The Final SEIR is hereby incorporated into these Findings in its entirety. Without limitation, this incorporation is intended to elaborate on the scope and nature of the mitigation measures, the basis for determining the significance of impacts, the comparative analysis of alternatives, and the reasons for approving the NLIP Landside Improvements Phase 2 Project in spite of the potential for associated significant and unavoidable adverse impacts.

VII. RECIRCULATION NOT REQUIRED

No significant new information was added to the Draft SEIR as a result of the public comment process. The Final SEIR responds to comments, and clarifies, amplifies and makes insignificant modifications to the Draft SEIR. The Final SEIR does not identify any new significant effects on the environment or a substantial increase in the severity of an environmental impact requiring major revisions to the SEIR. Therefore, recirculation of the SEIR is not required.

VIII. RECORD OF PROCEEDINGS

Various documents and other materials constitute the record of proceedings upon which the Board bases its findings contained herein. The record of proceedings is located in the offices of the Clerk of the Sacramento Area Flood Control Agency, 1007 Seventh Street, 7th Floor, Sacramento, California 95814.

IX. SUMMARY

A. Based on the foregoing Findings and the information contained in the record, the Board has made one or more of the following Findings with respect to each of the significant environmental effects of the NLIP Landside Improvements Phase 2 Project:

1. Changes or alterations have been required in, or incorporated into, the NLIP Landside Improvements Phase 2 Project that avoid or substantially lessen the significant environmental effects identified in the Final SEIR.

2. To the extent that such changes or alterations are within the responsibility and jurisdiction of another public agency and not SAFCA, those changes or alterations have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities

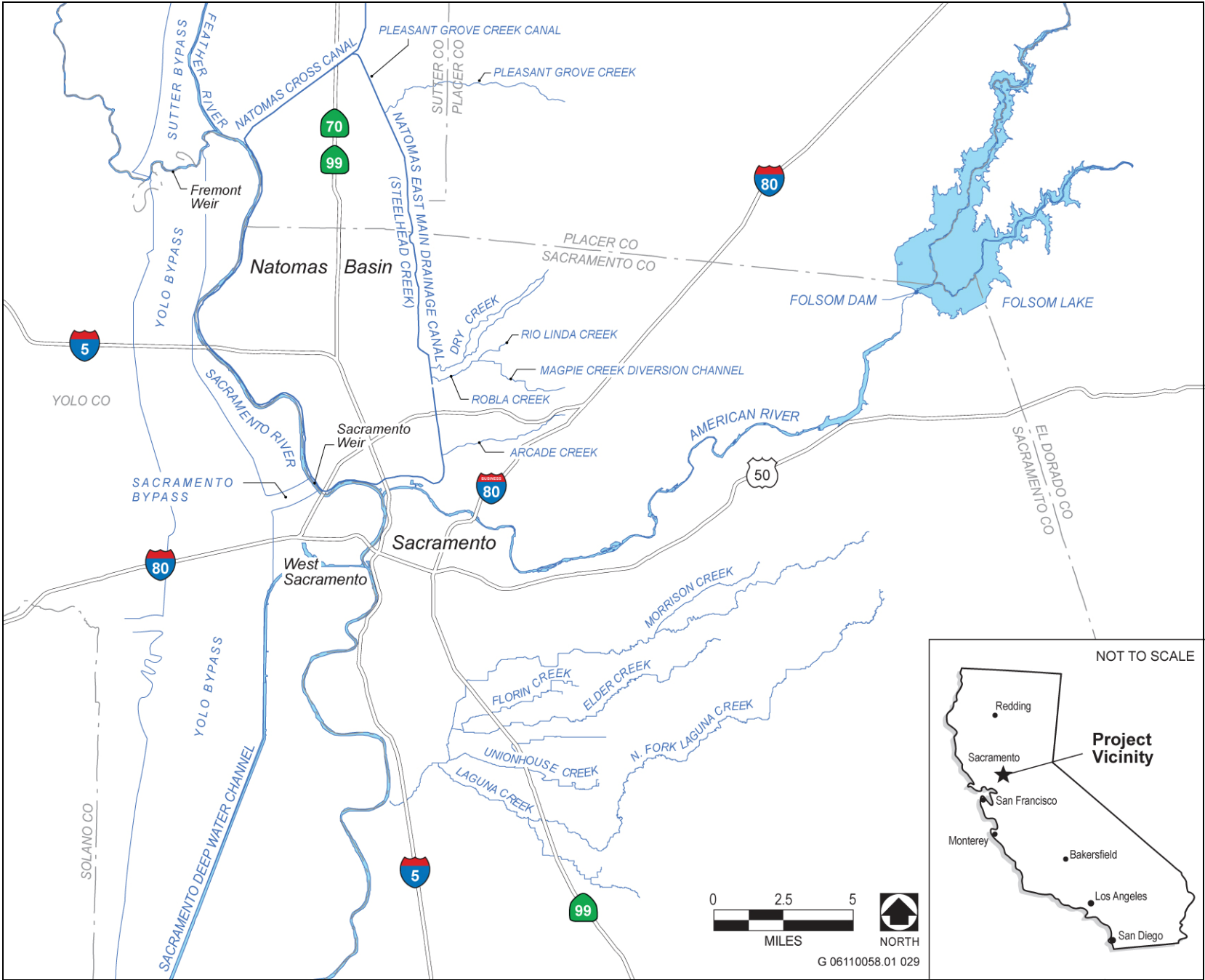
for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

B. Based on the foregoing Findings and the information contained in the record, it is determined that:

1. All significant effects on the environment due to the approval of the NLIP Landside Improvements Phase 2 Project have been eliminated or substantially lessened where feasible.

2. Any remaining significant effects on the environment found to be unavoidable are acceptable due to the factors described in the Statement of Overriding Considerations in Section V, above.

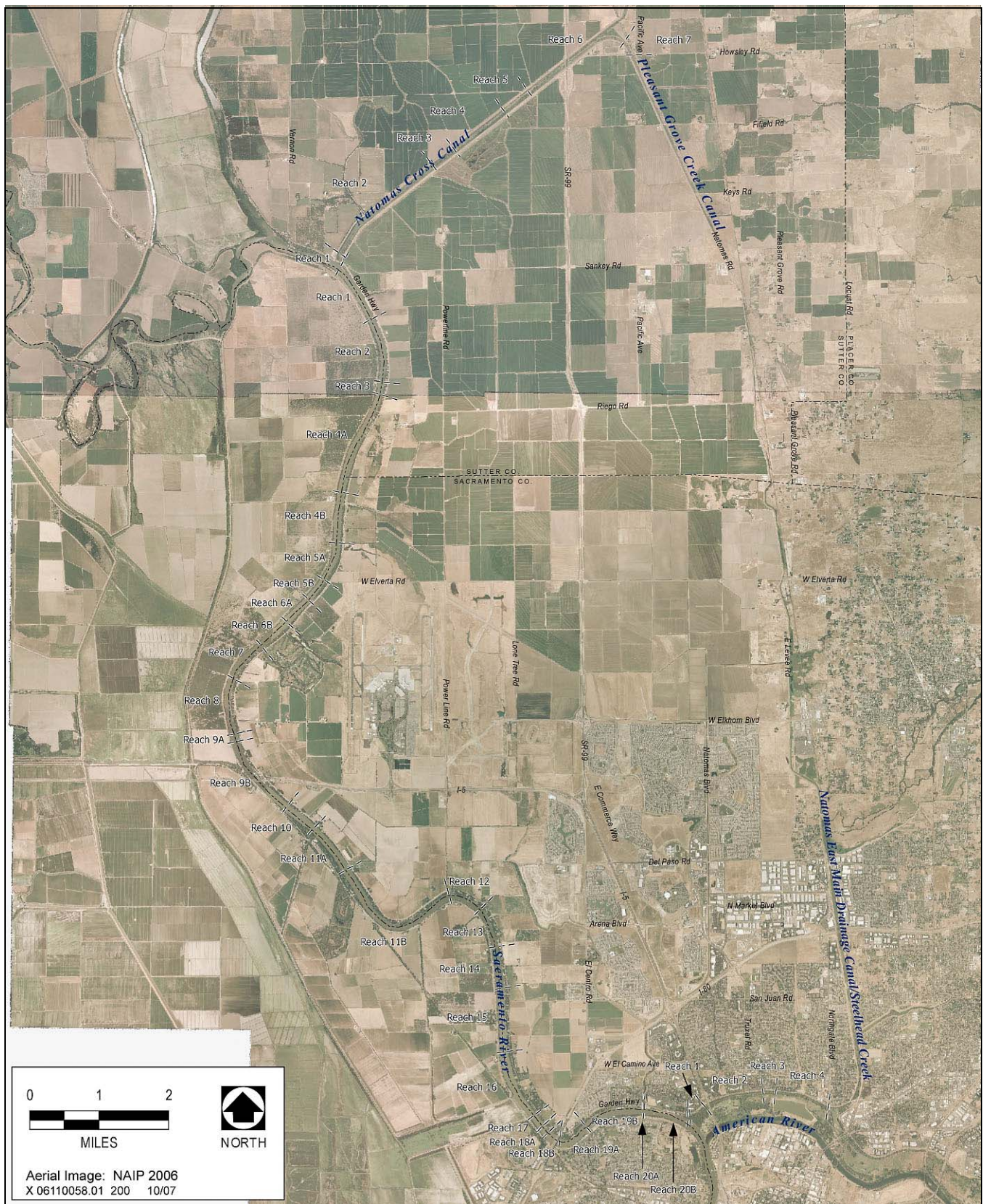
Figure 1



Project Location

Exhibit 1-1

Figure 2



Source: Aerial Image SACOG 2006, adapted by EDAW 2008

Natomas Basin Levee System

Exhibit 1-2